

Aviation News

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MAY 15, 1944



Budd Delivers New Cargo Ship: This new twin-engine high-utility welded stainless steel cargo plane, originally designed for short range operations into small airports throughout Latin-America, is in full production for the Naval Air Transport Service and the Army by Edward G. Budd Manufacturing Co. Cargo capacity is 10,400 pounds. Gross weight is 33,800 pounds. An ambulance and a jeep can be carried, with space remaining, according to space specifications. (Story on Page 10.)

★ Leasing of Surplus Transports Urged

Five-year agreement asked, terminable earlier through purchase of new aircraft, in proposal submitted to Pogue group....Page 7

★ Admirals Assail Army-Navy Merger

Jacobs tells Woodrum Committee of contrasting needs of services; Horne asks deferment of study till after war.....Page 12

★ 340 Airline Planes Supplied Allies

Gorrell releases data following report that Roosevelt has signed order lifting limit on airline planes to 300.....Page 36

★ Target: Axis Ball-Bearing Industry

Large-scale attacks on vital plants follow same pattern used to destroy or dislocate enemy's fighter plane production..Page 20

★ RFC to Get Surplus Inventories

Contract forms being worked out to let aviation manufacturers clear books of excess in case of cancellations.....Page 8

★ WPB Eases Ban on Post-War Models

Agency clarifies order allowing experimental work, provided manpower and materials are not diverted; bars publicity..Page 30

★ Airline Directors' Affiliations

Survey by AVIATION NEWS shows 516 additional financial and industrial relationships of 169 men on directorates.....Page 46

★ General Announces 2 Lightplanes

Two-place, two-control Skyfarer and all-metal, high-wing tricycle-gear Skyfarer to sell in \$2,000 range.....Page 16

VICKERS AIRCRAFT ACCUMULATORS

Save Weight



VICKERS 5" ACCUMULATOR For 1500 psi Operating Pressure

Total Volume 86.8 cu in.
(WITH DISCHARGE TUBING)
Weight, dry (nominal) 3.50 lb
Volume/Weight ratio 18.7 cu in./lb

These accumulators comply with Williamson Specifications of the Army Air Forces for operation between -65°F and 160°F.

VICKERS 10" ACCUMULATOR For 1500 psi Operating Pressure

Total Volume 332.3 cu in.
(WITH DISCHARGE TUBING)
Weight, dry (nominal) 14.85 lb
Volume/Weight ratio 25.6 cu in./lb



They also provide MAXIMUM CAPACITY

The weight saving in aircraft hydraulic systems resulting from the use of Vickers Accumulators is evident from the weights and volumes given above. We believe Vickers Accumulators have the highest volume/weight ratio of any accumulators available today. Maximum capacity is another important feature of Vickers Accumulators: the volumes of both the 5" and 10" sizes approach the high limits of the AS Accumulator Specifications.

The increasing importance of adequate evaluation of

weight reduction is almost self-evident. We believe Vickers Accumulators of particular interest to design and weight analysis engineers.

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THE AVIATION NEWS

Washington Observer

JETS VS. CONVENTIONAL ENGINES—Although large-scale use of jet power is not even in sight, especially on commercial and personal aircraft, there is much discussion on the future of the conventional cycle engine industry. All aircraft engine producers have at least joined in the speculation and one major firm, at least, has been conducting experiments for more than two years on jet propulsive machines. Present companies probably will strive to maximize the jet power field by getting and keeping the lead in efficiency, although realizing that the ultimate simplicity and low-cost characteristics of jet plants may greatly decrease the dollar volume of the business.

KASER AND LIGHTPLANES—Henry J. Kaser is taking an active interest in light aircraft and is experimenting with one established manufacturer on a proposal to finance a plant for production of the company's proved design in progressive numbers. The famous ship manufacturer's philosophy is that the nation, through private industry, can produce itself into permanent prosperity and plenty by taking advantage of new low-cost mass methods. He expresses the fear that none of the existing personal airplane producers will be financially able to stand the strain of shelving out enough planes to break the vicious circle of small-volume high-cost. He also believes that safety and utility of personal planes are good enough for big sales immediately, the only trouble is the price.

COST OF LIGHTPLANE ENGINES—The old proposal to use the mass engine on both automobiles and lightplanes is being talked up again. Most engineers say it's not feasible. But some say it is. They explain that heretofore automobile engines were tried in planes. It should be possible now, they argue, after years of phenomenal development of air cooling in peace and war, to put airplane engines in cars, or at least to compressors. It is true, they admit, that some components of different materials and closer workmanship, and some of different design, must go into the airplane engine. But there is no reason, they insist, why both engines cannot be built on the same production line. By this means, it should be possible to bring the cost of lightplane power plants down from three or four hundred dollars to less than two hundred. Almost certainly, they say, some cars are going to be air cooled and the light-

plane builders should not miss the opportunity to reduce prices to their prospects by taking full advantage of the changeover.

WTS SURPLUS PLANE SALES—Objectors are being raised to the sale of surplus War Training Service lightplanes—total sales may reach 5,000 by the year end. Some personal plane manufacturers say that this all-time record auction of used planes is taking away the post-war market for new products. Others argue that in the initial post-war years, new planes will cost more than they did pre-war. Few if any new planes can sell for less than \$1,500. Many of the WTS planes are being sold to people who, if prices were higher, would not buy any plane at all. Those who get the



The ring of the Mosquito fighter-bomber

higher-priced WTS planes will wear them out and buy new ones anyway. If Army sells large numbers of its little fighter planes, they will be bought mostly by boys in the "meatcycle" class, who could not afford a thousand dollar plane.



BEHIND all of our modern methods of communication are electrically energized devices. Their successful operation depends on good insulating materials, insulating materials that will take physical abuse and which will function under extreme moisture and temperature conditions.

Ever since electrical energy was first harnessed and put to work C-D materials have provided good insulation. The development of better insulating materials has been the constant goal of the C-D laboratory. The success of C-D's efforts have been the long-lasting shadings which have forecast the phenomenal advances which this country has made in the field of communications.

1st **DIAMOND Vulcanized RMB**; then **DIRECTO**, a massive proof insulator; 2nd **VULCOID**, which combines to a remarkable degree the desirable properties of both **DIAMOND** fibre and **DIRECTO**; 4th **MICALOND**—new insulation. It is most suitable form and now **DIELINE**, a pure resin plastic especially for U-H-F insulation.

C-D engineers have helped solve thousands of insulating problems. They have accumulated a wealth of "know how" which is at your disposal to help solve your electrical insulation problem.

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Industry Heads Urge Lease Plan For Surplus Transport Planes

Five-year agreement urged, terminable earlier through purchase of new aircraft, MacCracken to represent NAA and Civil Aviation group before Pogue subcommittee this week.

By WILLIAM G. KEY

The only practical method of handling surplus transport airplanes is through lease agreements limited to a period of five years, but which can be terminated earlier by the purchase of new aircraft from American manufacturers, the Pogue Aircraft Advisory Subcommittee of the Surplus War Property Board has been told by industry spokesmen.

The Air Transport Association already has made its suggestions to the Pogue subcommittee through Edgar S. Gorrill, president of the ATA, who acted as spokesman for the body. The Aeronautical Chamber of Commerce of America is preparing its presentation, and will be heard soon. Ernest H. Breech, president of Bendix Aviation Corp., is chairman of the ACCA surplus committee.

MacCracken to Appear—William P. MacCracken will appear before the Pogue body in representation of the National Aeronautic Association and the Civil Aviation Joint Legislative Committee. The NAA board last week decided not to present any definite stand because of the complexity of the problem, but MacCracken will represent the NAA in any discussions he is scheduled to appear on May 17.

Even what has been uncovered on Gorrill's presentations and studies previously made by the ACCA, both groups are in substantial agreement on the plan they recommended to the subcommittee, differing chiefly in terms of recovering transport aircraft of the armed services for civilian use. The ACCA would make the manufacturers' agents for the government, while the ATA plan would have

the airlines and others deal directly with a government organization.

Conversion Work—Gorrill is reported to have urged a proposal whereby the airlines would not be required to have conversion work done by the manufacturers, but could utilize any responsible organization for the work. This would permit airlines with war-swollen payrolls to do their own conversion work, maintain part of their present organizations and absorb retiring groups until normal activities are expanded.

Asks Quick Action

Immediate action on the surplus aircraft plan is necessary, Edgar S. Gorrill, president of the Air Transport Association, told the Pogue Aircraft Advisory Subcommittee, Aviation News has learned.

Gorrill told members that airlines already have converted airplanes, and that the possibility of obtaining additional planes soon made upon necessity. He told the Pogue group that every dollar spent by airlines for obsolete equipment being returned by the Army was a dollar that could not be used to buy modern, efficient planes when they become available. The ability of the airlines to buy new planes will be a major factor in supporting the manufacturing industry, which he termed a primary consideration. Gorrill urged that the plan be made retroactive to cover planes already returned.

This is certain to draw the fire of the manufacturers, who, under their preliminary studies of suggestions to the subcommittee, will urge that the planes be returned to the original designer for the conversion work, thereby adding them to keep a backlog of personnel busy during the conversion period.

Provisions of ATA Plan—The plan advocated by the ATA would provide:

► That the government retain title to all transport aircraft, leasing them to users.

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Expansion of the educational program through use of surplus aircraft was advocated by the airline spokesmen.

In the foreign field, the lease program also would be applied, except that each company or nation leasing the surplus aircraft would be required to make a deposit with an American manufacturer for an airplane of comparable and more modern type. It was pointed out that it might be impossible in some instances to do this.

However, the Surplus War Property Board was told that the use of transport planes should be used as an instrument in international bargaining.

It was urged that particular attention be given development of an transport system in countries without adequate transport systems at present, making it possible to dispose of a large portion of the surplus and related ground and flight equipment.

New Air Magazine

The first issue of *Globe's*, new monthly aviation magazine, has appeared. It is edited by Ward A. Stone, in Kalamazoo, Mich.



PAA CARVES OUT YUCATAN AIRPORTS

After 18 months of work with bulldozers and 1,500 laborers, Pan American Airways has cleared aside two named areas of the Yucatan jungle and opened airports at Carmen and Chetumal. Pan American's Mexican affiliate, Cia. Mexicana de Aviacion, operator in the southern and southwestern sections of Mexico.

Surplus Plane Plant Inventories To Be Turned Over to RFC

Contract forms are being worked out to let for aviation manufacturers to clear books of excess in case of cancellations.

A directive has been signed by Surplus War Property Administrator William L. Clayman under which aircraft manufacturers will turn over excess inventories to the Metals Reserve Corp. of the Reconstruction Finance Corp.

Contract forms are being worked out by attorneys, and completion will make it possible for aviation manufacturers to clear from their books the burden of inventories that could weaken their financial structure in the event of sudden cancellations.

The excess inventories will be sent to responsible warehouses to be held and sold for the Metals Reserve Corp., an effect releasing the flow of materials through warehouses that for 36 months have been supplying aviation manufacturers with sheets and parts under plans worked out then for orderly supply of manufacturing plants.

Agreed—The warehousing plan was given Clayton's approval and the directive issued after approval by the Army and Navy, the Metals Reserve Corp. and the Board of Governors of the RFC.

Contract forms are being worked out by attorneys, and completion will make it possible for aviation manufacturers to clear from their books the burden of inventories that could weaken their financial structure in the event of sudden cancellations.

Starts About Sept. 1—This starts the first flow of materials back to the warehouses and into other industrial or trade channels will start about Sept. 1.

Spokesman for the National Aircraft War Production Council, which has been sponsoring the warehousing plan, said they had heard a directive had been signed, although it has not yet been made public, and said it would alleviate one serious factor in the financial position faced by the aircraft manufacturers when war production is slowed or canceled out.

Hickey Nelson, national coordinator for NAWPC, previously had estimated that excess inventories, built up through model changes and withdrawals from one type of production to others, would cost \$100,000,000 for the nation's aircraft plants.

Scrap Surplus Moved—Aircrafts have been made to move some of the surplus—and probably \$5,000,000 a week has been turned through various means—yet the use of the surplus product made a strong, overall plan necessary. Out of it grew the warehousing plan, which will avoid economic dumping of the material and permit its orderly movement into industry and trade over a period of time without threatening bankruptcy to the companies now holding the excess inventories. Usable surplus goods will be scrapped.

Segregation of the materials was started several months ago, and should be completed by June 1.

AVIATION CALENDAR

- May 14-15-16-Dallas Airport Planning Conference.
- May 17-18-19-Dallas, Hamiltonville and Oklahoma City, Okla. Airfield Conference.
- May 20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044-1045-1046-1047-1048-1049-1050-1051-1052-1053-1054-1055-1056-1057-1058-1059-1060-1061-1062-1063-1064-1065-1066-1067-1068-1069-1070-1071-1072-1073-1074-1075-1076-1077-1078-1079-1080-1081-1082-1083-1084-1085-1086-1087-1088-1089-1090-1091-1092-1093-1094-1095-1096-1097-1098-1099-1100-1101-1102-1103-1104-1105-1106-1107-1108-1109-1110-1111-1112-1113-1114-1115-1116-1117-1118-1119-1120-1121-1122-1123-1124-1125-1126-1127-1128-1129-1130-1131-1132-1133-1134-1135-1136-1137-1138-1139-1140-1141-1142-1143-1144-1145-1146-1147-1148-1149-1150-1151-1152-1153-1154-1155-1156-1157-1158-1159-1160-1161-1162-1163-1164-1165-1166-1167-1168-1169-1170-1171-1172-1173-1174-1175-1176-1177-1178-1179-1180-1181-1182-1183-1184-1185-1186-1187-1188-1189-1190-1191-1192-1193-1194-1195-1196-1197-1198-1199-1200-1201-1202-1203-1204-1205-1206-1207-1208-1209-1210-1211-1212-1213-1214-1215-1216-1217-1218-1219-1220-1221-1222-1223-1224-1225-1226-1227-1228-1229-1230-1231-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New Budd Cargo Transport Eyed as Post-War Feeder Plane

Navy and Army taking deliveries on twin-engine stainless steel utility carrier for Air Transport Service; payload is 10,400 of a gross load of 33,800 pounds.

Data released on the newest cargo transport by the Navy and Edward G. Budd Manufacturing Co. reveal a high utility carrier which may find a sizable market after the war for feeder line operation.

The Naval Air Transport Service is taking deliveries on the Covesloop, an unconventional twin-engine, welded stainless steel high-wing monoplane which also can be used as an aerial ambulance or as a personnel or paratroop transport. The Army also will receive part of the output.

Navy's 22nd—Designated by the Navy as the TB-1, and named after the prairie schooner of pioneer days, the plane is the first large craft of stainless steel put in full production. It is weather and fire resistant.

Gross weight is 23,366 pounds. Payload is 10,400 pounds. With this weight, takeoff run can be made in 320 feet and range is 826 miles. Maximum range with available tanks is about 1,700 miles, and with auxiliary tanks about 3,500 miles. Length is 68 feet and span

is 140 feet. Cruising speed is 165 mph with top speed about 200.

The two Pratt & Whitney R-1500 engines produce 1200 hp at take-off and 713 hp at cruising.

Outstanding Mechanisms Electrical

—Wing loading is 24.2 and fuel consumption is 62 to 63 gallons an hour. Nearly all actuating mechanisms are electrical. The ship is passing its CAA performance tests.

Unobstructed cargo space of 55 by 8 by 8 is made possible by attaching the wings at the fuselage to five special side frames which are joined across the body by shallow rigid transverse members. Probably 65 to 75 percent of interior displacement can be used for cargo. Loading is facilitated by a hoist above the loading ramp and a manually operated winch on the forward end of the compartment.

If forced down on water, the plane will float "adequately," its designer believes.

Transport or Ambulance—Twenty-four persons may be carried as a passenger transport, or 24 stretchers as an ambulance. An ambulance car and a jeep can be

rolled into the compartment, with space remaining. Paratroops may be launched simultaneously through doors on each side while their supplies can be jettisoned from the rear hatch, which acts as a runway on the ground. All loading is level, because of the triangle gear.

Except for plywood doors and floor, construction is stainless steel, the skin thickness varying from 0.028 inch upward, joined by spot welding.

Easily Handled—The crew of two works in a full-height, dual-controlled compartment in the nose, offering high visibility. Controls are simple and inexperienced pilots can handle the craft.

The Navy accepted the Budd design early in 1943 and in May construction of the Budd plant and field, near Philadelphia, was begun. Contract was signed in August, 1942. The first static test plane was finished in August, 1943, and initial test flight was Oct. 31, 1943. Several planes have been built, and full production is under way.

Both First Plane in 1935—Budd's first welded stainless steel plane was built in 1931 and now is displayed at Franklin Institute, Philadelphia. Conspiracy is experienced in stainless steel streamlined trucks, tank trailers, masts, stocks and doors, fighter plane wings and exhaust systems.

The project began about 1940 when the Defense Supplies Corp., worried about German-built transports on Latin-American airlines, assembled a committee to devise specifications of a U. S. plane which could carry heavy loads economically in and out of small fields in the southern hemisphere and take the plane market from the Germans. This was before the Government considered taking over control of Latin-American airlines, later accomplished. The committee included William Barclay Harland, Reed Chambers, William Stout, William A. M. Burden and Andrew Prosser. The Budd design, prepared and submitted by Dr. Michael Walter, was accepted.

Dr. Walter joined Budd as chief aircraft engineer in 1939 after education in Russia and Italy, and design and project work at Chanco Veschi, Barnelli, and Morini.

The five-unit assembly plant, on 557 acres and built mainly of concrete, has a main assembly section of two bays, each 1,800 by 121 feet, each accommodating 26 planes.

Views of New Budd Cargo Transport



NATIVES BUILD AAF AIRPORT IN NIGERIA

Shoveling picks and a Nile River boat song, these natives of Nigeria, Africa, are leveling off a field for construction of an air base for the Air Transport Command of the U. S. Army Air Forces.

Admirals Assail Plan to Merge Army, Navy in Single Department

Home tells Woodrum Committee he opposes consideration of proposal till after war, Jacobs says no "paper reorganization" can effect unification because of units' contrasting needs.

The Woodrum Committee on Post-war Military Policy was told by high ranking naval officers last week that the merger of the Army and Navy in a single department for the armed services is open to serious question.

Vice Admiral Bloch, vice chief of naval operations, expressed unqualified opposition to merger plans until the end of the war, when, the admiral said, field commanders could be heard and any decisions made based on deliberate judgment.

Views Under Study—Admiral Horne said various views now were under study by the General Board of the Navy, and that following completion of the studies the Navy would be prepared to accept any plan that offered the greatest security for the nation.

Vice Admiral Royalall Jacobs, chief of naval personnel, told the committee that personnel planning of the Navy must be contrasted, not compared, with that of the Army, and said that he was convinced from his own experience that "a paper reorganization" of the War and Navy departments could effect a unification of training because of the contrasting needs of the services.

Principles Worked Out—He revealed that the Army and Navy have already worked out together the principles to be recommended by both services in connection with a universal military training program, which is to be studied by the select committee after it concludes hearings on unification.

There was considerable speculation before the first session of the Woodrum Committee last week on the directive issued by the United States Joint Chiefs of Staff ordering both the Army and Navy to proceed with studies of plans for unifying the armed forces.

The directive followed the Navy's first act of opposition to the Army's unification plan, expressed by Acting Secretary Forrestal just before the death of Secretary Knox.

Duplications—Admiral Ernest J. King, Commander-in-Chief of the United States Fleet and Chief of Naval Operations, transmitted the directive to the Navy and asked officers to try to eliminate duplications that have been revealed in congressional hearings and to study programs under which merger of the forces could be made. These studies, however, have been in progress, and one of the strongest opponents of unification, Admiral

Henry H. Varnell, is understood to be one of those who have been considering procedures. Varnell is scheduled to testify before the Woodrum Committee and there have been reports that he will recommend unification in some form.

Some commentators have criticized the building up of Navy land-based air strength in the Pacific, viewing it as duplication of the Army's function and expressing the fear that there would be large-scale duplication if the European-based air force of the Army is released for Pacific service. It is believed this prompted the directive of the joint Chiefs of Staff.

Horne Questioned—Admiral Horne was closely questioned by committee members, mostly from Washington (N.Y.), on the organization of the joint Chiefs of Staff, an agency set up by executive order under the President's war powers that has strong support in a permanent body. Horne continued to insist the joint board which consisted of top-ranking professional officers of the two departments. This earlier joint board, said Horne, threatened joint problems and then reported to the respective secretaries of the departments. The secretaries could veto the proposals, but if they did not, the findings of the board had the force of orders. The main difference between the two agencies, said Horne, is that the joint Chiefs of Staff report directly to the President and agreed with the suggestion that the difference between the groups was the difference between an advisory board and a command board.

Postwar Plans—Horne also disclosed that the Navy is preparing these broad plans for post-war demobilization, which will prescribe the size of the post-war fleet, "including the necessary aircraft and Marine Corps personnel," and the location of strategic bases necessary to support the fleet.

The first, he said, is based on a world situation wherein there would be no agreement between the Allied nations to cooperate in maintaining peace in the world. The second would be based on the United States' taking the responsibility for maintenance of peace in the western Atlantic and the Pacific.

The third assumes an agreement between the Allied nations for some system of collective security. The first plan, he said, is ready

FEDERAL DIGEST

NWLB Approves C-W Pay Agreement

Orders wartime vacation schedules at Boeing and Beech, many of week's activities in U. S. and war agencies.

By MARY PAULINE FERRY

National War Labor Board announced decisions affecting three major aircraft companies, Consolidated, Beech and Boeing.

At Curtiss-Wright Corp., the Board approved wage settlements between IAM-APL and the company, providing for the elimination of "simple" and "intermediate" job rates at the St. Louis, Buffalo and Louisville plants. Elimination of the two labor grades, subject to the Director of Economic Stabilization, will result in an hourly increase of 9.3¢ for approximately 900 workers in Buffalo. As for about 1,000 men in Louisville, 50¢ will be for five employees in the Louisville plant.

Vacation Schedules—Progression schedules in the plants would have taken care of these adjustments, but only after the workers had been reclassified as provided for in the schedule after a three or six months period. The adjustments are effective as of Aug. 2, 1943, for Buffalo, and Dec. 10, 1943, for St. Louis and Louisville.

NWLB has directed uniform vacation schedules for the Wichita plants of Boeing Airplane Co. and Beech Aircraft Co., providing for one week vacation with pay after a year of service and two weeks after five years, affecting approximately 16,000 workers at Boeing and 9,000 at Beech.

Pay Schedules—Vacation pay is to be computed on the basis of a six-day week, with the employee's straight-time average hourly earnings multiplied by 46. The identical vacation clause was ordered because of disputes between IAM-APL and the two companies.

A standard voluntary membership of membership clause was granted to the IAM in contracts with Beech, with provision for a 15-day period ending May 17, 1944, in which members may withdraw from the union if they wish.

Disenfranchisement—Industry members disenfranchised in the union security clause in the Beech contract and

Indoor Copter Hop

The new Bell Aircraft Corp. helicopter was flown inside a hangar at Wright Field, Dayton, Ohio, last week, the first time a helicopter has been flown indoors in the country.

The flight, arranged at the request of Civil Air Patrol officials, was a demonstration of stability and precision control. The maneuvers of the craft were restricted by a 60-foot ceiling and a 300 by 300 foot floor.

Only previously known indoor helicopter flight was made in 1934 when a demonstration was staged in Germany of a rotary wing plane designed by Heinrich Focke.

on the vacation issue in both.

A request by the union for an automatic advancement schedule to cover in-grade promotions was denied by the Board with labor members dissenting.

NWLB has adopted a statement of policy in regard to voluntary applications for approval of annual bonuses or other similar types of bonuses. Bonuses not exempt from Board approval shall be decided on the criteria: (1) of no appreciable increase in cost resulting from the introduction of such a bonus plan or resulting from an increase in the amounts or percentage of bonuses paid under an existing plan during the preceding three years; (2) of no losses prevailing in the industry in the area before October, 1942, and (3) not based on general allegations of increased work or duties performed by the employee subject to the plan.

A bonus payment made to an employee entering the armed forces does not require Board approval.

War Production Board (War Reloc. Act) has issued orders for the most critical categories of all war materials, including aircraft, to be produced in the United States. The orders will be issued to all war production plants in the United States, including those in the United States, and will require that all war production plants in the United States, including those in the United States, must be located in the United States.

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Plants Face Heavy Loss of 22-26 Men

Manpower losses described by one source as "blistering" are faced by the aircraft manufacturing industry under the no-draftment rule for men under 28.

Few definite figures are as yet available, because manufacturers still are exhausting every channel to save men they consider irreplaceable, but the few that can be obtained indicate the aircraft plants will lose thousands of the young men who are now away from 150 out of some 3,500, and thus only for a few months. Probably one in every 25 men would be a fair average.

Boeing to Lose 1,100—The Boeing plant in Wichita, turning out the top-priority B-29's, will lose 1,100 in the 22-26 age group in the next 90 days, and hopes to save 60 engineers in vital spots of the production program, although it is almost certain that some 100 will be lost.

Least Col Paul K. Klamann, exceptional detachment chief for Mayland Selective Service, revealed that only 146 of 4,210 Glenn T. Martin Co. workers in the same age category have been granted deferments after a re-study of the plant's replacement schedule by AAF and Selective Service officials.

Deferments for the 146 were from two to five months only, the amount allowed by postgraduate selective service permitted all 4,210.

New Air Degree

Purdue University has approved granting of the degree of Bachelor of Science in Flight Administration, looking forward to the needs of an expansion in air travel.

President R. C. Elliott said the curriculum would be administered by the School of Mechanical and Aeronautical Engineering. Enrollment will be limited to 10.

Fallows Navy Program—The new course cannot be started until the Navy program ends. The four terms of study will cover such subjects as flight instruction, navigation, servicing, elementary electrical engineering, elementary aircraft engine, engineering drawing, airway communications, weather forecasting, airport operation and control, accounting, aviation law, airline and fixed base management.



AMERICAN AIRLINES' FOOD CART:

This "mobile cafeteria" carries food directly from the kitchen to waiters in American Airlines' repair shops and hangars at LaGuardia Field. As a preventive precaution, the food is unspiced.

War Needs Sidetrack

Reconversion Moves

\$70,000,000,000 some schedule for 1944 keeps plants too busy to think of curbs.

A large question mark currently over-shadows reconversion plans in the 1944 aviation schedule which now stands at \$70,000,000,000.

As long as this schedule remains unchanged, the total capacity of American industry is likely to be kept busy on war orders. Although manufacturers and the public alike have momentarily taken their eyes from the Army Supply Program, they will undoubtedly learn that here is the real cue to reconversion. As long as the aviation schedule remains where it is now, there will be no large scale curbs.

30 Percent Aircraft—Exactly what percentage of this total schedule involves aircraft is a fact that has not been made public—at least not in terms of dollar values—but it is well established that aircraft makes up approximately 30 percent of the total. By this reckoning, then, the nation's aircraft plants will be called on to produce roughly \$20,000,000,000 during 1944, a quantity of planes that will permit no release of facilities.

The total resources schedule of

\$70,000,000,000 compares with the 1943 total of \$70,000,000,000. This latter was short of the \$85,000,000,000 munitions goal for the year, which is itself had been trimmed from earlier estimates of \$75,000,000,000.

Rebates Schedule—WPA acknowledges that production now is in the neighborhood of \$5,000,000,000 a month, and that it will double level all when it reaches \$5,000,000,000. Officials at the Warrenton Branch are hopeful that, before the year's end, the figure will reach up around \$6,500,000,000, but they are not illusory and admit it is merely wishful thinking.

Schedules have always been a subject of considerable controversy between WPA and the post, although at recent months interest in schedules has waned perceptibly. This decline of interest in schedules is due to end abruptly, since industry is now learning that by watching schedules it can get a fairly accurate idea of when to expect reconversion.

Reconvening Orders—In the past, the Army and Navy have not always scheduled wartime schedules to WPA, and this has been a source of embarrassment to the latter agency, since it always turned out to be WPA's job to explain to the Public why production ran behind schedule. WPA officials have acknowledged off-the-record that

Navy schedules are often incentive schedules and that this is why schedules are always higher than actual production. Army schedules last year are described as being "fairly realistic," while those of the Maritime Commission were the pretty well geared to production.

Previously, WPA officials have pointed out that ARPC schedules have often been incentive schedules, and one official said that "very few connects it with the production of airplanes is familiar with the shortcomings of the schedule."

Question—Whether or not the total schedule for 1944—which is the Army and Navy's idea of what is required for the year—stands at \$70,000,000,000 is a question open to speculation. Right now there is a report that it is being trimmed to \$65,000,000,000.

One thing, however, is certain. If the present schedule plays, there will be little plant idleness. If the schedule is cut, industry will be given an unmistakable tip that reconversion is on the way.

WPA Guards Against Reconversion Slack

Act to secure adequate labor supply for war production during any changes.

In order to safeguard war production during reconversion, the War Production Board has issued a policy designed to assist in meeting the problem of an inadequate labor supply while increasing production of essential civilian goods. An original staff order was issued by WPA Operations Vice Chairman E. B. Bowdoin, but later rescinded by Chairman Donald Nelson who in turn issued a less rigid order.

Worked Out by Nelson and Wilson—The policy was worked out by Nelson and Executive Vice Chairman Charles E. Wilson and stipulates that approved production programs be placed in Group 3 or Group 4 labor areas that approval of the appropriate vice chairman be received for programs placed in Group 2 labor area that Wilson approve any program going into Group 1 area with clearance from Area Production Unemployment Commission; and that production increases on the West Coast not exceed 10 employees and not exceed 100 employees in the rest of the country.

Termination Bill Faces Rough Going

House controversy on George Murray measure centers on powers to be given congressional general.

The George-Murray contract termination bill faces rough going in the House after surviving attempts of Senator Kilgore in subcommittee on the bill for the termination measure in the Senate.

The controversy in the House will center around the powers to be given Congressman General Lindsay Warren in connection with required review of "Warrenton" not given up his fight for review of termination settlements before payments are made. The Senate bill gives Warren the right of review only where fraud is suspected.

The congressional general would require the Congress if settlement procedures were, in his opinion, inadequate.

Follows Baruch-Hawcock Report—The Senate bill follows the lines of the Baruch-Hawcock report, which endorses Warren's demand for review before settlement "unemployment by suit." His course, the report said, would "quicken the nation into a pace."

Three and possibly four bills will be before the House for action.

One has been reported out by the Military Affairs Committee, and would, in effect, place the comptroller general in charge of the whole settlement process. This bill now is applicable only to the Army, but Chairman May of the Military Affairs body is asking that it be extended to cover all settlements.

Congressmen Possible—A second bill may furnish the congressional committee to agreement of both houses on the comptroller general question. This is the bill reported out by the Naval Affairs Committee. At first applicable only to the Navy, it has been amended to apply to all agencies. Under this bill, the comptroller general would appoint observers in contract settlement cases to participate in all the negotiations, which would strengthen his hand, but would not permit delay in settlement.

A third bill is now before the Judiciary Committee after having been introduced by Rep. Kefauver (D., Tenn.), which follows the general lines of the George-Mur-

Procedures

Procedures are being set up by Francis L. Olinch, drafted from the presidency of Munsey, to lead the discussion of the Treasury's procurement division, for the clearing of surplus products into industry and civilian hands.

While the Treasury division is generally classed as in charge of sale of consumer surplus items, it is expected to handle materials other than surplus goods at general value to industry or to civilians—like surplus military, surplus aircraft and similar items, even though they come from aviation sources in industry or the Army Air Force.

ray bill but provides additional yards against excessive claims.

The fourth bill is under study by the Collier Post-war Planning Committee, and also substantially follows the Olinch-Murray bill. This bill will have to go before another committee to be reported out, since the Collier body is not a legislative committee. Capital sources say the bill is virtually ready for introduction.

Shift Pilot Training To Latin America

With the training of almost 400 Latin American pilots and 300 technicians in this country, emphasis on the Civil Aeronautics Administration—State Department pilot training program is being shifted to Latin American countries, appropriations hearings reveal.

William A. M. Bardeen, special aviation assistant to the Secretary of Commerce, disclosed that it is not this country approximately \$7,000 for each pilot trained and \$3,000 per mechanic. The entire cost was borne by this country, with funds supplied by the Defense Supplies Corp. and direct appropriation. Some 19 countries participated, the extent of their contribution being spending money for the students. Technicians will continue to be trained in the U. S. \$500,000 Asked—The State Department asked \$500,000 for the program during fiscal 1945, somewhat less than is being spent in fiscal 1944. No exact figure for 1944 was available because part of

the funds came from an earlier DSC allocation and \$750,000 from congressional appropriations.

The cost of the schools per student in this country will drop with transfer of activities to Central and South America, although at least one group will be brought here. In these schools, the local government will furnish between 80 and 90 percent of the funds.

Bardeen said CAA now has technicians in Brazil helping to develop aerial flight instruction methods in local flying clubs organized under the Brazilian civil pilot training program.

Mexico Sets Up School—Mexico is setting up a new pilot training school in Puebla, with United States technicians furnished to supervise instruction. Instructors are men previously trained in this country. All planes used in this program are American-built, and privately-owned light aircraft in this country are being urged to establish schools in Latin-American countries.

Bardeen said it was hoped to encourage the American aircraft industry to offer training at the industry's expense to as many Latin Americans as possible.

The largest number of pilots trained by the United States came from Brazil—183. One hundred fifteen Brazilian mechanics have been trained. Next highest was Mexico with 43 pilots and 35 technicians. Argentina had 30 pilots in its first program, but no mechanics, and any more. Colombia and Chile each supplied 31 pilots.

Columbia Duck' New Life-saving Plane

For months the Columbia Aircraft Corp. plant at Valley Stream, N. Y., has been turning out a utility amphibious plane for the Navy with neither officials nor employees having any idea of how the craft was used.

Navy finally disclosed that the plane, built on the 223A, was a "life-saving plane" and that it had been officially named the Duck due to its ability to ride the waves.

Used in Pacific—It is being used especially in the South Pacific for rescue work, for landfare personnel and cargo at isolated spots where no airstrips have been built. It is the prop of the Navy and can be landed on rougher sea than any other Navy plane.



ELECTRICAL DOPE WAGON:

Electrically operated wagon such as the one pictured used a Woman's Ordnance number are used in RCA repair depots to wheel down airplane machines and supplies. Claim is that steps are saved through streamlining of frequent trips between storage and job.

Two New Lightplanes Headline General's Post-War Program

Two-place, two-control *Skyflier* and all-metal, high-wing, tricycle geared *Skyflier* carrying two persons will sell in \$2,000 range; new four-place craft of similar characteristics is in advanced engineering stage.

By ELAINE STUBBLEFIELD

Less than a year after it is re-organized from war work General Aircraft Corp. expects to make initial deliveries of its new *Skyflier*. Company also has in advanced engineering stage a four-place airplane of similar characteristics, and probably other projects which manufacturers are not ready to discuss.

Safety Feature—The new two-place, two-control *Skyflier* was designed with special emphasis on safety, simplicity of operation, and ease of use, for the non-professional pilot. It is an all-metal, high wing monoplane with tricycle undercarriage and fixed-pitch propeller, powered by an 80 hp air-cooled engine. It will sell in the \$2,000 class.

General Aircraft was organized in 1946 and built 34 ships before war practices shut off the supply of materials. The 1946 model *Skyflier* was designed by Professor Otto C. Koppes, professor of aeronautics at the Massachusetts In-

stitute of Technology. Professor Koppes, with Charles W. Butterlund, organized Puritan Aircraft Corp. at Lowell, Mass., in 1937, and built the "box car," design of all *Skyfliers*, in a barn. Koppes is the designer of current models also.

New Builds Gliders—General Aircraft's plant at Lowell, in which the 34 planes were built, was taken over by Army ordinance in 1943, for production of ammunition. General packed up his tools and other facilities and moved to a two-story warehouse of the Stenway Plane Co. on Long Island, N. Y., where it is engaged in fabrication of airframes and final assembly of the CG-4A Army gliders. Stenway produces the wood components in its factory near by.

General did not own the plant at Lowell (it was leased) and makes no statement whether it intends to return there. Financing, post-war organization, and loca-



"*Skyflier*" Designer, Professor Otto C. Koppes, professor of aeronautics at Massachusetts Institute of Technology, designer of two light planes for Henry Ford in 1935-36, designer of the *Skyflier*.

tion are in progress and will be announced at a later date. Company will announce also, at the proper time, a detailed description of its two-place and four-place *Skyfliers* and other projects.

Fixed Fins—Chief among the features of the *Skyflier* are its large twin vertical fixed fins (there are no rudders) and the two-control system. Satisfactory two-control operation of the airplane is obtained by providing a special degree of directional stability. This design is covered by General's own Koppes patent and also by the Fred Wick patent, under which the *Skyflier* is built, covering the combination of a two-control tri-cycle rear plane with steerable front wheel. General's license under the Wick patent also enables it to license other airplane makers.

The *Skyflier* retains flying speed after the elevator control has been eased clear back and held there. The nose remains up and will not fall off. In this attitude the plane can be turned either way, with slightly more than normal movement of controls, and pulled sharply out of one turn into the opposite.

Steps Short—The writer was permitted to put the pre-war plane through all of these special maneuvers. The best feature must be retained or improved in the new design. It was landed from a remarkably steep glide path with flap down. Once in contact with the ground the plane seems to stick there, and it can be stopped

sharply with the foot brake. It steers on the ground like a car, the nose wheel is actuated by the steering wheel, which also actuates the ailerons.

The ground steering mechanism is rigged stiff, for protection against inadvertent quick turns and possible oversteers. Absence of the rudder is not noticed after the first few minutes. The plane begins its turn almost immediately after a few degrees of roll in either direction.

Fixed Gear—The landing gear is designed to require the minimum of attention. It is retractable because the engineers feel that non-professional flyers should not have the opportunity of forgetting to let it down. Then too, the saving in drag by retraction would scarcely be worth the cost in design and pounds of weight added.

There is no wood construction in the new *Skyflier*. The rear two-thirds of the wings are covered with cloth, as are the vertical fins and the elevators. The stabilizer is metal. The fuselage is metal monocoque, wings are of the D-18 type, and are braced by a single strut.

Large More Small Fields—General Aircraft executives are in full agreement with the small airfield program of the Aeronautical Chamber of Commerce. They believe that company ownership of smaller airplanes will be extensive and profitable. They look forward to constructive simplification of certification of both airplane types and pilots. In their opinion certification of light aircraft should be left, if so far as possible, with those who handled it before the war, but more emphasis should be placed on simplification and less on the pilot angle.

New Crash Truck

A new type of high pressure crash truck, designed to aid rescue of personnel from burning aircraft, was demonstrated last week by an Army air base crew of firefighters at Rosier's Run near Washington National Airport.

Main feature of the truck, designed by U. S. Army Engineers, is a pair of movable barrel nozzles which project a line spray of water under 400 pounds pressure. The stream from these nozzles clears a path through the flame along which asbestos-clad rescue workers can reach the burning ship.



AN 'AEROTEL' OF THE FUTURE

This photograph of a model "aerotel" combined club and hotel resort adjoining an air strip, illustrates an article by William A. Hale, of Consolidated Value, arguing a national system of 20,000 strips for private flyers after the war. The strip has a surface of well-drained turf, with hangars and service aids near by. Skiplane base also is shown.

Wichita Aviation Men Launch Drive for City Landing Parks

Back move for series of fields within walking distance of business and residential districts.

On the theory that 90 percent of the airplanes used after the war will be privately owned, a strong movement has developed among aviation leaders in Wichita, Kan., to have a series of airports established within walking distance of the downtown area and residential districts.

A special subcommittee of the Wichita Chamber of Commerce is working on this unique program, and four sites already have been nominated as possible locations for landing strips.

Main Site Selected—Most important of the four suggested sites is adjacent the Arkansas River, slightly more than a block from the downtown district and only six blocks from the city's busiest intersection. One of the city's largest hotels is just across the river from the site. Included in the plan for this particular airport are such facilities as taxi and rent-a-car service, hangars, refueling and servicing stations and complete tourist accommodations.

Another landing field would be approximately in the center of the city's East Side residential district.

Rear Plane Fields—A third suggested site is just west of Eastborough, an exclusive residential

suburban area, and near the Cema and Beech plants. The fourth is in the stockyards district. The latter would serve the North End business and residential districts as well as the meat packing and meat grinding industrial area and the Culver plant.

A. S. Swenson, chairman of the Chamber of Commerce Aviation Committee, says the idea of close-in airports has CAA sanction, as long as the necessary safety requirements are observed. He reported that it is the opinion of his committee, which includes representatives of all Wichita aircraft manufacturers, that the parks can be built to CAA specifications. There are no tall structures within the immediate flight area of the proposed sites.

Plans Flexible—Only small, privately owned planes will use the parks at first, but the aviation leaders backing the movement are making reservations for enlarging accommodations to meet the demand. The runways can be either sod or gravel at the outset, with pavement following, if and when it is needed. Present plans, of course, must remain flexible as well as far-seeing.

Each of the airports would have



Pre-war "Skyflier". It flies side-up and makes turns with the elevator control held clear back, but no rudders. The post-war version is stream-lined like a monoplane and has several controls and convenience features which the company will announce later.

two runways—one north-south and one east-west. They would be connected by a 400-foot ramp, to minimize the cost of obtaining land.

Phase Firmes Interested—Three Wichita manufacturers of airplanes—Cessna, Beech and Culever—who plan to build personal aircraft after the war, are especially interested in the project. They feel it will stimulate interest in aviation and aircraft sales, with the result that some part, at least, of their wartime expended facilities may be kept employed.

Study of Kansas Aided—The Chamber of Commerce board of directors, in a rather reserved approval of the Aviation Committee's proposal, has recommended to the boards of city commissioners, park commissioners and the city planning commission that a study be made of "available, conveniently located sites." In making such a study, the board suggests that city officials give recognition to the potential need for close-in airports for the immediate post-war period.

Seems probable results from establishment of airports were outlined by the Chamber in its recommendations:

- ▶ Increase the utility value of the private plane.
- ▶ Contribute to employment in our aircraft plants by stimulating the demand for private planes.
- ▶ Increase the sales of personal planes.
- ▶ Attract buyers to Wichita.
- ▶ Increase Wichita's trade area.
- ▶ Retain national leadership and gain national recognition for Wichita as a progressive aviation center.
- ▶ Provide a sensible, well-balanced, integrated plan for future long-time development of commercial and private flying.

The Chamber emphasized that the airports would be supplemented to the city's present municipally owned airport, which is one of the largest in the country, and recommended that a second airport be obtained to provide facilities for fixed-base operators, sales rooms, training schools, charter services and "other appropriate aviation uses."

Fellows Cessna's Plan—If and when the airports are developed within the city limits it will be Wichita's fulfillment of its part in an idea recently presented by Cessna Aircraft Co. that a system of landing strips be set up

Twirly-Birds

It was bound to come sooner or later and here it is—an association of helicopter pilots. Membership is small, but the organizers insist it will grow. C. J. Morris, chief test pilot at Sikorsky is the founder and first president.

Name: The Twirly-Birds.

throughout the country for small private airplanes.

The system, which also would serve as a means of navigation through a medium of latitude and longitude markings on the maps, calls for adequate landing facilities within the corporate limits of cities and towns over the nation.

Airmen in Congress Form Flying Club

5 members sign up at dinner sponsored by NAA.

Some people smiled last week when the National Aeronautic Association announced it had formed a flying club in the Congress of the United States, with about 50 members signed up after a dinner meeting in the Hotel Statler in Washington.

But promoters of aviation in all its phases saw in the club one of the smartest projects in NAA history. No Representative or Senator, being human, can long resist the thrills and utilities and the future of aviation once he himself is a participant in it. On all matters of aeronautics, military and civil he will have a new and probably favorable viewpoint.

At Dinner—Eighty Congressmen attended the dinner, and over 100 expressed interest in the organization.

Congress has never been backward about aviation development. It voted prodigious funds for aircraft in the World War, immediately thereafter authorized the Post Office to establish the transcontinental and other air mail routes; followed through with subsidies under the contract system, established the National Advisory Committee for Aeronautics in 1915; backed the worldwide development of Pan American Airways; enacted new aviation legislation as new developments required—finally the Civil Aeronau-

tics Act of 1938, and in this war has unhesitatingly poured more money into aviation than the total of our national debt before the war. Usually, when Congress has not legislated for air, or has done it sparingly, the fault lay not on Capitol Hill but in the inactivity of aviation groups themselves.

Headed by Randolph—Chairman pro tem of the NAA Congressional chapter is Rep. Jennings Randolph (D-W. Va.). Principal speakers at the dinner meeting were four Congressmen who were aviators in the first World War: J. Lacey Johnson (R-Calif.), Melvin Mass (R-Minn.), William J. Miller (R-Conn.) and Charles K. McKenzie (D-La.). Rep. Thomas A. Jenkins (R-Ill.) and Arthur Hyde, manager of Congressional Airport, near here, also spoke.

Rep. Mass, a Marine aviator in the last war who has also seen duty in the present conflict, was named chairman of the coordinating committee. Named to serve with him were Reps. Gilbert A. Woodman (R-Va.), Percy Priest (D-Tenn.), Evan Howell (R-Ill.) and William J. Miller (R-Conn.).

Parley of Airport Users to Be Called

NAA authorizes action in move to bring together groups interested in post-war development of landing facilities.

In a move to bring together interested groups in planning large-scale developments of post-war aircraft landing facilities, the Board of Directors of the National Aeronautic Association has authorized the calling of a Joint Airport Users Conference.

Invitations to join in establishing a coordinated program of planning and action will be extended to representatives of federal, state and local government; the aircraft and construction industries; and organizations representing public interest in airports.

MacCracken Heads Committee—William P. MacCracken, of Washington, NAA general counsel, was named chairman of a committee on preliminary arrangements and working with him will be Glen B. Eastburn of Los Angeles, NAA vice-president and chairman of its committee on commercial air services and facilities, and Roger Wolfe Kahn, of New York, member of the board and chairman of NAA private flying committee.

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COMMENTARY

Axis Ball-Bearing Industry Allies' Major Bombing Objective

Large scale attacks on plants throughout Nazi-dominated Europe follow same pattern used to destroy or dislocate enemy's fighter plane production.

Over 38 years ago the Italian General Giulio Douhet wrote a penetrating sentence in his classic volume on airpower, *The Command of the Air* (1929), "The selection of objectives, the grouping of zones and determining the order in which they are to be destroyed is the most difficult and delicate task in aerial warfare, constituting what may be defined as aerial strategy." Precision bombing as a rule achieves maximum results in the destruction of key bottlenecks rather than of industrial targets.

The American assignment in the

joint strategic air offensive against Germany, which was denoted to "totally weaken" the enemy's capacity for armed resistance, was to knock out the bottlenecks. However, as no nation can protect itself without fighter aircraft, and to prevent prohibitive losses in the daylight attacks against key factories, the main fighter industry became the No. 1 objective last summer. The results of this campaign to date are well known, the majority of single-engine and twin-engine fighter factories having been seriously crippled (some knocked out for keeps), the pro-

duction for the past four months in succession being less than losses in combat and on the ground.

Ball-Bearings.—While this battle against the Luftwaffe was being fought, our strategic air forces struck a number of blows against an industry which from the standpoint of precision bombing is almost ideal—ball-bearings. A bottleneck in ball-bearings is a bottleneck in essential industry. They are indispensable to any piece of machinery with high speed moving parts. These include such vital weapons of war as aircraft and marine engines, torpedoes, motor trucks, tanks and armored cars, and scores of others. The machine tool industry and the transportation system are also dependent on millions upon millions of these tiny steel balls. Their manufacture is a highly complicated process, requiring a very hard steel and several important inter-related steps, each of which needs its own specialized machinery. These steps include grinding out the ball, cutting, grinding, heating and tempering, two or three stages of rolling and then polishing. A direct bench hit on one part of the factory would create a bottleneck, and have repercussions throughout the rest of the factory.

Industry Concentrated.—The enemy evidently figured that Schweinfurt, the center of the industry, was so far from British based heavy bombers as to be immune from attack. It is true that the 350-mile round trip passes over the most heavily defended parts of the Reich, and the savage opposition encountered on all missions landed in this key city made it clear that the Germans are fully aware as to the vital importance of the targets. The plants at Schweinfurt were producing nearly one-half of Germany's ball-bearings. The first attack was part of the Eighth Air Force's first anniversary mission on Aug. 17, 1943, when some 289 *Fortresses* scored hits on three of the ball-bearing factories and several of the machine shops at Schweinfurt, while nearly 180 more landed at the Heinkel-Henschel 100 factory at Regensburg. Losses were heavy over both targets.

A larger force of our heavy bombers made a second attack on Oct. 14, seriously damaging all five of the ball-bearing factories, 60 bombers being missing, our heavy-



The 'ALL-OUT' got at bearing and airplane parts participated in a search for the 'ALL-OUT' for ball-bearings.



A few minutes of the 'ALL-OUT' Dry Chemical extinguisher is enough to stop a fire in a large industrial plant—no matter how big, no matter how big.



The 'ALL-OUT' Dry Chemical extinguisher is a powerful weapon in the fight against fire. It is a powerful weapon in the fight against fire. It is a powerful weapon in the fight against fire.



Even though the 'ALL-OUT' is a powerful weapon in the fight against fire, it is a powerful weapon in the fight against fire. It is a powerful weapon in the fight against fire.

GOING INTO BATTLE FULLY ARMED



to extinguish FIRE on the INDUSTRIAL FRONT

The workman who smokes fire with the new "ALL-OUT" Dry Chemical Extinguisher is fully armed to extinguish quickly both flammable liquids and fires in electrical equipment... fully protected against radiant heat and electrical shock.

The "ALL-OUT" Extinguisher discharges a stream of "ALL-OUT" Dry Chemical that instantly generates a dense, fire-smothering, heat-reducing cloud over a flaming area up to a distance of 18 feet. This chemical cloud—clean and harmless to the operator—will not scratch, stain, nor mar either highly polished surfaces or the moving parts of motors and machinery.

IMPORTANT "ALL-OUT" FEATURES

Weighs approximately 17 lbs. fully charged, the "ALL-OUT" Extinguisher is rapidly connected and easy to carry and operate by men or women employees. Larger openings very positive container, and exclusive mounting of the "ALL-OUT" carbon dioxide cylinder permits quick, on-the-spot recharging without special equipment in the case of fire... method of extinguishing carbon dioxide gas into chemical chamber gradually increases and drives fluid of fire killing. "ALL-OUT" Dry Chemical, a special formula of "ALL-OUT" Dry Chemical, is contained in this unit, but must be recharged and kept ready to use. — See chart under "ALL-OUT" Dry Chemical in the "ALL-OUT" Extinguisher.

See the "ALL-OUT" Extinguisher Demonstrated, Free Today For Your Copy of The New Illustrated Folder, And The Name of Your Local "ALL-OUT" Representative.



"ALL-OUT" "Fatal to Flame"

NATIONAL POWDER EXTINGUISHER CORPORATION

30 ROCKEFELLER PLACE, NEW YORK 20, NEW YORK



INSPECTS INVASION BOMBER FIELDS:

General Eisenhower studies a map of invasion airports as Maj. Gen. Lewis H. Brentnall, commanding general of the Ninth Air Force (left) and Col. Herbert Twissler, commander of a Mustang group, look on.

PRODUCTION, too, is Supercharged



One of Rohr's assistants is making parts for and assisting

ing installations of the superchargers that drive Libers, too, through the stratosphere. Rohr methods are hundreds of man hours on this one operation. This is another instance of how American manufacturing is supercharged to drive American production far above the reach of Axis enemies. The teamwork of American industry, working together for quicker victory is exemplified by sixty-five separate firms which contribute their engineering and production skill toward the completion of this supercharger installation. Teamwork for Victory, staying on the job to finish the job... that's as American as Valley Forge... as Tarawa,

CALIFORNIA



HELPING TO WRITE
THE STORY OF TOMORROW
Supercharge your Road Beyond

ent loss to that date. During the air blitz of Feb. 23-26 a third big attack against Schweinfurt by 36-17's (over 250 tons) was made, followed by two attacks "in great force" (over 700 Lancasters and Halifaxes) by the RAF that same night (Feb. 26-28), which is true round-the-clock bombing. On Apr. 12, a fourth attack was made by the AAF, causing heavy damage to some of the buildings which had been repaired, and hitting another which had largely escaped previous attacks.

Other Plants Bombed—In addition to Schweinfurt, other ball-bearing factories are in Turin and Villar Perosa in northern Italy, Steyr in Austria; Pavia, Stuttgart and Berlin. After the capture of Foggia and the setting up of bases in southern Italy, the Fifteenth Air Force carried out attacks against Turin and Villar Perosa on Nov. 8 and Dec. 1, and against Steyr in February, March and early April. The Eighth heavily damaged the SKF factory in Pavia Dec. 23, a ball-bearing plant in Stuttgart Feb. 23, and the large Zirkner factory in the great daylight attack against Berlin Mar. 4.

Extent of Damage—Reconnaissance photographs indicate substantial damage was caused in this extended campaign to stop the



SPAATZ SIGNS DOOLITTLE'S SHORT SNORTER.

Two of the top USAAF commanding generals in the European theater are pictured at a conference following the AAF's 10th mission over Europe. Gen. Carl Spaatz, right, commanding general Strategic Air Force, signs Gen. James Doolittle's short snorter left. General Doolittle commands the Eighth Air Force in England.

flow of vital ball-bearings. Some production is continuing at most of them, others have been more lightly damaged, some may have

been mixed altogether, and some new production is reported as coming from rapidly converted facilities in Czechoslovakia and Poland. Imports of ball-bearings from Switzerland and especially from Sweden, further complicate the picture. There is no doubt, however, that sooner or later, a ball-bearing crisis will emerge in the Nazi war-making potential, and that strategic bombing results will show up in the invasion of the European continent as they unquestionably did in the Tunisian campaign last spring and the Russian counter-offensive last summer. Such bombing has the effect of knocking the weapons right out of the enemy's hands.

NANTERRE



CANNIBAL COBRA:

AAF officers describe this as the "fattest P-39 Airacobra in the Pacific." Built entirely from a salvaged fuselage and other spare parts by Seventh Air Force engineers who are shrewd with it, the ship is used as a night fighter.

Fitch Transferred

May Gen. Ralph J. Mitchell, of the U. S. Marine Corps, has taken over command of the South Pacific Air Force, succeeding Vice Admiral Aubrey W. Fitch. Admiral Fitch is returning to Washington for reassignment. The South Pacific Air Force has destroyed more Japanese planes than any other Allied command. Admiral Fitch shut, with an average of five enemy planes for every Allied plane.

HEAT, LIGHT, AND POWER Five miles up!

COMPACT G-E GENERATORS
drive by the plane's engines,
supply electric current for operation
of all auxiliary equipment.

The General Electric d-c power system shown here not only generates electricity—it also regulates the voltage and distributes the current to every part of the plane. From powerful, though small, generators to relays, contactors, and switches, this aircraft power system is designed and engineered as an integrated whole to G-E standards. It is one of several types of G-E control and operating systems—power supply, speed control, automatic pilot, ignition—built for use on United Nations' aircraft.

As ships increase in complexity, the need for automatic operation becomes more pressing—to free air-crow members for more important duties. The resources of General Electric are devoted to the manufacture of such automatic

systems. Systems that automatically position crew flaps and intercooler shutters, synchronize the operation of two or more parts of the ship, control armament—take over flight operations formerly performed by the ship's crew.

The flexibility, reliability, and light weight of these G-E systems are reasons why many designers now make it General Electric when they make it automatic. Then, too, aircraft manufacturers will find that man-hours can be saved by ordering complete electric systems, engineered by one experienced manufacturer. For technical information regarding G-E aircraft systems, and consultation on contemplated projects involving such systems, write to the nearest G-E office. General Electric Company, Schenectady 5, N. Y.

Typical G-E components of the D-C POWER SYSTEM



GENERATOR motor-driven, self-excited. Weighs but a sixth as much as an industrial generator of the same rating. Provides power for standby drives equipment on the plane—radio, heater-cooling, radar, meteorological wing flap.

REGULATOR controls the voltage of its generator and, in multi-regulator installations, controls the portion of the load supplied by its generator.



CONTROL SWITCH provides automatic operation of the motor, lamp, action, double-break contacts give high current rating.



RELAY automatically controls the generator in the system and disconnects it in the event a trouble condition exists.



AIRCRAFT MOTORS and other G-E products, such as radio equipment, lamps, and heaters, are used with the d-c system to help them live and fight under severe combat conditions.



**PRECISION PRODUCTS
AND
ENGINEERED SYSTEMS
FOR AIRCRAFT**

**BUY
WAR BONDS**

GENERAL ELECTRIC



Simmonds does some planning for the busy Feeder Line Pilot

Current discussions of feeder line systems generally visualize a network of minimum-staffed units. Particularly will feeder line planes require economy of operation. For this reason, any development looking toward the lessening of the pilot's many duties will be a welcome achievement.

Simmonds offers an important contribution with its automatic engine control. Acting as a "third hand" for the pilot, and assuring safer and more efficient engine operation, it provides automatic control of manifold pressure and mixture, maintaining a pre-selected setting through varied altitudes and maneuvers. More advanced designs, made possible by wartime experience and continued research, will extend automatic control to the propeller governor, spark, and other engine functions.



The Simmonds-Nelson Automatic Engine Control
Model 41

SIMMONDS EQUIPMENT FLIES WITH EVERY TYPE OF ALLIES AIRCRAFT

Automatic Engine Controls
Push-Pull Controls
Hydraulic Actuators
Hydraulic Pumps
Chromatic Reducers
Spark Plugs
Self-Aligning Radial Bearings
Peterson and Clips of
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PERSONNEL

Casden G. Johnson has been appointed plant manager of Lycoming Division of Aviatron Corp., 16 Williamsburg, Pa.



The division is a fast-growing aircraft engine manufacturer. Johnson has been acting plant manager and prior to that was manager of Aviatron Corp.

He also served as assistant treasurer of Lycoming. In 1937 and 1938 he was president of Auburn Automobile Co.

Arnold J. Geyser is new contracts and service manager of Lawrence Automobile Corp., Linden, N. J. Prior to joining Lawrence, he was



Geyser

traffic specialist of the Rubber Development Corp., Aviation Division, and directed the organization of air supply routes for the transportation of personnel and critical supplies and materials to and throughout RDC's South American interests. Geyser was manager of the Air Liaison Department of U. S. Aviation Underwriters, Inc., during 1939-1942, and was previously district traffic manager of the New York area for American Airlines. He was connected with Robertson Aircraft Corp. before it merged with American.

Harry E. Collins, vice-president of Bell Aircraft Corp., and assistant manager of the Georgia branch division, has been promoted to the post of vice-president and manager of the company's Washington operations in liaison with the

armed services and other important agencies of the Government. Collins was in charge of the Treasury Department's Procurement division until he joined Bell in 1943 as vice-president in charge of experts. When the company was asked to build and operate the tender plant, he played a leading role in getting the plant into production on schedule.

E. G. Koenig, Jr., is now project engineer of Higgins Aircraft, Inc., New Orleans. He has been with Peco Products Co.

Adam Anderson, office manager of the Los Angeles office of United Air Lines, Inc., just



before moving her "five-year" company service plan. Before moving her Los Angeles executive post, Mrs. Anderson worked in UAL offices in Hollywood, Oakland, and San Francisco, California.



LAESTER-KAUFFMANN OFFICIALS CONFIR:

Top officials of Laester-Kaufmann Aircraft Corp., St. Louis, discuss their 1944 glider production contracts. They continue as one of the builders of CG-4A's, and are carrying on experimental glider work. Left to right are William F. Fialut, assistant secretary, Mr. Hanson Whitehead, vice-president, John W. Laester, president, and John R. Kaufmann, secretary-treasurer.

NAMED BY AERONCA:

Alfred D. Bennett, whose experience as director of post-war sales for Aeronca Aircraft Corp., was announced in AVIATION NEWS Apr. 17.

ordnance, New York. Soloviev has served the Navy Department as director of the scheduling and reporting division, as executive secretary of the Navy Procurement Review Board, and as a personal representative of the late Secretary Knox to carry on a continuous review of the validity of all Navy requirements and production. He is returning to his firm of Shearson, Hornum and Co., New York and Chicago.

Theodore A. Kneiser is staff assistant to the general manager of Bendix Products Division, Bendix Aviation Corp. He was chief of the manufacturing production section, tool-and-die center, Detroit.

Frederick L. Hall, formerly with Douglas Aircraft Co., Inc., and then the Office of Free Administration, has been named special consultant to F. A. Foyes, executive director of the Combined Production and Resources Board. He has been serving as member to the director of the foreign division.

William F. Green, whose appointment as general manager was an-



Green

nounced in *American News* May 1, has been elected general manager of Pratt & Whitney Aircraft, Division of United Aircraft Corp. Green, who is only 36, joined the factory approximately 17 years ago. He has served as assistant to the service manager, West Coast representative of the company and as assistant sales manager. He has been acting general manager since November.



CAP LEADERS VISIT PAA BASE

Photographed during tour of Pan American three-*Atlantic* installations at LaGuardia Field, N. Y., were (left to right) Leroy C. Earl, John Johnson, national commander, Civil Air Patrol, General Pryor, vice-president and assistant to the president of Pan American Airways, Maj. Gen. Robert Harper, assistant chief of Air Staff, Training, Thomas H. Beck, chairman of the CAP League and a founder of CAP, and Capt. Joseph H. Hart, master pilot of Pan American Airways. The visit of 30 officers of the AAF and CAP to the Clapper base was part of the two-day meeting in New York City (Apr. 27 and 28) for all CAP wing commanders from 48 states and headquarters offices.

John W. Brown, who has been research test engineer for Grubbs and Diesel Engine Co., is now development engineer for Aerojet Engineering Corp., Pasadena, Calif.

Ed Leong, former assistant production superintendent of the Los Angeles Division of Consolidated Valve Aircraft Corp., has been appointed head of the newly established tool engineering department of the Division. He has chosen as tool planning, design and manufacturing. Before joining Convair, six months ago, Leong was general manager of the Aircraft Division of the Dasher Furniture Co., Irvine, Ind. He has been associated with Douglas, Vega, Stratus, Continental, North American and Valco Field.

Walter F. Ansell, technical director of Soggers Co., Wood Preserving Division, was elected president of the American Wood-Preservers' Association at the 46th annual meeting.

William E. Beck, 36-year veteran of Pan American Airways' non-continuous mountaineering, has been transferred from constant shop supervisor to assistant at the Atlantic Division in New York, to Miami, where he will serve in the same capacity at the Latin-American division. Five hundred Pan-American employees attended a party in his honor held at the Chamber Club in Jackson Heights, L. I.



RECORD BREAKERS:

Capt. Charles A. Thompson (right), American Export Airlines, set a new non-stop record of 15 hours and 36 minutes for the 3,229-mile non-stop flight between New York and Europe on Apr. 17-18. He is shown being congratulated by Capt. Edward A. Stewart, another American Export pilot, who two days previously had set a new record of 15 hours and 51 minutes for the same distance. Both pilots flew four-engine Flying Aces, loaded to capacity.

George Sherman W. Ross, USN, has been detached from duty in the Aerology section, Flight Division, office of the Deputy Chief of Naval Operations in Air, Navy Department.

Capt. John F. Grodzko has been appointed Trans-Canada Air Lines check pilot for the western division, with headquarters at Lethbridge, Alberta, and Capt. A. R. Edwards check pilot for the central division at Toronto, Ont.

James H. Cooper has been appointed executive assistant of Sheldon Standard Propellers, Division of United Aircraft Corp. Cooper has served as division accountant and



Cooper

will be succeeded in that post by Benjamin W. Whelan, at present factory accountant.

Whelan

e-examine your vibration problems—

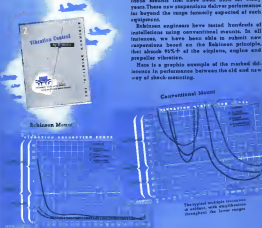
ROBINSON PRINCIPLE

ABSORBS VIBRATION 95%+

Robinson suspensions, custom-designed and built for special use in supporting airborne equipment, are radically different from the conventional shock mounts that have been used for many years. These new suspensions deliver performance far beyond the range formerly expected of such equipment.

Robinson engineers have tested hundreds of installations using conventional mounts. In all instances, we have been able to exhibit new suspensions based on the Robinson principle, that absorb 95%+ of the engine, engine and propeller vibrations.

Here is a graphic example of the marked difference in performance between the old and new way of shock-mounting.



See the superiority of the new and old-time designs in all three drawings.

Robinson
Vibration Control
Engineers

In the light of this new development, you will want to investigate the Robinson principle. See for yourself in many applications, such as mounts for aerial cameras, instrument panels, airborne radios and delicate flight instruments. The book, *VIBRATION CONTROL BY ROBINSON*, will give you the information about the performance of Robinson-designed and built suspensions—being put into use by the Army and Navy and leading manufacturers. This booklet is available upon request.

ROBINSON AVIATION, INC.
739 Fifth Avenue • New York 19, N. Y.

WPB Eases Post-War Model Ban But Tightens Curb on Publicity

Order P-43 allows experimental work, provided materials and manpower are not diverted from war effort, but results of laboratory work must not be revealed in advertisements nor should special products be demonstrated for public.

Although plane manufacturers and airlines have been given the "green light"—with limitations—to develop models of post-war products, investigation at the War Production Board shows that caution is needed in some phases of the program.

The WPB preference rating order is broad enough to permit virtually all manufacturers to conduct experimental work, as Dr. A. E. Lombard, chief of the manpower division of the Aircraft Re-

sources Control Office recently told aviation executives in Los Angeles (Aviation News, May 1).

Caution Against Diversion.—This post-war work must not divert manpower, technical skill nor facilities from war production. This is specifically provided in order P-43 but the decision as to whether there is diversion is left to the manufacturer. WPB makes clear it will not rule on individual cases, taking the position that only the manufacturer can draw the

after time line of his production. Officially, a WPB spokesman said it is probable that an engineer in a draftable category would lose claim to deferment if he were not engaged directly in war work.

It is certain that a WPB crackdown will come if the results of any of this model-making or experimental work are used in advertising. P-43 bans it, even to the display of models to the public, and WPB officials are emphatic in saying that that action must be observed to the letter. The crux of this order is the ever-present fear in the services and WPB that the public will be given the impression that the war is nearly over. WPB takes the position that it recognizes that experimentation is necessary, should be done and can be done without harming the war effort, but that the war situation is such that the public cannot be let in on it because of the psychological factor involved.

Frictional Rp. Motors.—There are many things that manufacturers will not be able to do under P-43. The rating assigned in AA-2, and only in rare instances will a higher rating be granted for parts needed in this work. It will be almost impossible, for example, to obtain frictional horsepower motors, which Charles E. Wilson, chairman of the Aircraft Production Board, says is probably the tightest item, with ball-bearings, in the whole production picture. Various alloys would not be available, and certain laboratory equipment would not be released for the work. Materials restricted by other orders cannot be used. Laboratories that have been assigned serial numbers by WPB may not use their AA-1 rating to obtain materials for this post-war work, or, as the WPB puts it, future civilian markets. Special equipment possibly could be borrowed from stocks, however, until needed.

Priority assistance may not be used to construct any facilities for manufacture of the items on a commercial scale, even though the facility involves new features or developments. Only the maximum number of models or minimum size run necessary to determine the suitability of the item for commercial production is authorized.

Inquiries Barred.—WPB officials revealed that inquiries from manufacturers have stepped up in the last few months, largely as a result of clarification of P-43, issued Mar. 6, in which the delat-



"Swift completion of appointed rounds"

First Class Mail deserves maximum speed—not literally by flying postmen, but certainly by fastest carrier. The accelerated tempo of modern business demands immediate, or at most next-day delivery anywhere in this country.

Air mail, even at higher postage, now represents 85% to 95% of all long distance first class mail. But the other 10% to 15% could have been secured in the same local economy of air air here is proven 1941... a bonus both to the air lines and to the public.

Mail helped establish the airlines eighteen years ago. Tomorrow, airfreight-salable air can be an important factor in stabilizing the airlines to reach the capacity loads which will make possible lower shipping costs and broader service. Wright Cyclones will do their part by providing even lower fuel consumption and reduced maintenance. And because they weigh less than comparable piston-engines, they will carry greater loads. Wright Cyclones pay their way.



Cyclones Save 3 Ways

SAVE WEIGHT—MORE PASSENGERS
LOWER FUEL CONSUMPTION
REDUCE MAINTENANCE

WRIGHT
Aircraft Engines



BRAZILIAN-BUILT PLANE

National Aerial Navigation Co. says this is the first transport plane (twin-engine) built in Brazil. Little information is available about it, although it apparently is a light ship, possibly comparable in size to the American twin-engine Beech and Cessna, and has somewhat similar trim, despite the additional engine protruding out from the nose.



"Each Pound Saved On a Plane Increases Earning Capacity by \$100⁰⁰ a Year"



SAYS W. C. MENTZER,
Chief Engineer,
United Air Lines, Inc.



UP TO 60 LBS. PER PLANE SAVED BY BOOTS NUTS

- Far lighter, and much tougher than other nuts.
- Can be used over and over again.
- "Outlast the plane."
- New standard fastenings on all types of military aircraft.
- After victory, will be standard on commercial planes.
- Approved by all government aviation agencies.



CORNER ANCHOR NUT
—WING-STYLE

This is one type of the
Boots Nuts All-Steel Self-
Locking Nuts

"THE elimination of all unnecessary weight is the ever-present concern of those who build and operate airplanes. On the military airplane, weight saved means more bombs or guns carried; on the commercial airplane, more service to the public and more dollars earned. With its Mainliners carrying record loads of essential passengers and cargo, United Air Lines estimates that each pound of unnecessary weight saved represents an increased carrying capacity of \$100.00 per year, plus the intangible but important value of added accommodations for vital wartime commerce."

SEND FOR FREE BOOTS WEIGHT-SAVING BOOKLET TODAY. A comprehensive series of comparative weights of various types of self-locking nuts, prepared for the convenience of aircraft designers, engineers, inspectors and maintenance personnel. Copy will be sent you, free, on request.

tion of "laboratory" was headed-out to make clear that it covered all manufacturers with experimental and development facilities. The original version of the order generated it, but it was up to the individual manufacturer to discover that it did.

Despite the restrictions that wedge in the order, the fact that emphasis in aircraft production is now on quality, and the quality problem has been solved, will leave many manufacturers with some flexibility to work on post-war products in an effort to solve some idle plant facilities and unemployment problems.

■ **Must Curb Publicity**—WPA is so strongly willing that the work be done as long as war production or warplane development does not suffer, but it does emphasize that general publicity must be restricted. It wants the work done, recognizing that the post-war problem is a serious one, but it does not want the work misinterpreted by the public.

So, while manufacturers play the game, the "green light" is on.

Decide Brewster Control This Week

Control of Brewster Aeronautical Corp. will be decided at the annual meeting of stockholders set for Wednesday. Henry J. Kaiser and his "Navy" board will resign and James Work and the "Miranda group" have voting proxies for the 145,190 shares held in the voting trust set up last year when Kaiser took over management of the then floundering operations of the company.

Work holds 94,650 shares and 18,467 shares each are held by E. J. Miranda, A. J. Miranda, Jr., and P. William Selzer. The holders of this block have been discussing an officer and director slate to vote at the meeting.

■ **\$66,351 Outstanding**—While this constitutes the largest block of shares, there are \$66,351 shares outstanding. Only 364,726 shares were voted at the meeting last year that set Kaiser up as president. All but 26 for Kaiser.

Brewster has been producing Corsairs for the Navy, and in March started out 100 percent of the Navy's schedule, which had been revised upward in the middle of the month.

20,000 AAF Aircraft Accepted in Wichita

Center of huge production program has subcontractors in 24 states.

Wichita, Kan., which has long called itself the air capital of the world, is declared to be the center of a huge aircraft production program which draws on half of the states of the union.

Brig Gen Ray G. Harris, supervisor of the Midwestern Procurement District of the Materiel Command, announced that in Wichita alone 19,533 military aircraft have been accepted by the Army Air Forces since the inception of the pre-Pearl Harbor procurement program. Excluded are 136 troop carrying gliders, which would boost the total to well over 20,000 aircraft.

■ **Subcontractors**—The three prime contractors, Boeing, Beech and Cessna have let subcontracts in 24 states for a total of \$18,881,717. Of this amount, Kansas contractors got \$71,451,468. Michigan is second with \$38,693,963.

Among the Kansas subcontractors, those in Wichita have done the greater part of dollar volume originated by Gen. Harris to more than \$2,000,000,000.

■ **\$38,224,468 from Boeing**—Boeing has given Kansas firms \$19,218,468 or 20 percent of its total subcontracts. Beech, with \$63,066,666 subcontracts allocated \$36,444,000

to Kansas firms and Cessna has provided the area with subcontracts valued at \$18,990,000 from its total subcontracts of \$31,979,066.

Of the planes built by the three Wichita prime contractors, Beech has subcontracted 40 percent of the total production of the plant, Boeing 25 percent and Cessna 35 percent.

Ranger Makes Parts For Merlin Engines

Parts for Rolls-Royce Merlin engines produced by Packard and Continental Motors and small auxiliary power plants for bombers will be built by Ranger Aircraft Engines Division at Fairchild under three new contracts revealed last week.

The new program is expected to triple current employment at Ranger's Long Island plant.

■ **Get Back**—Ranger has been supplying its lathe, inverted arched engines for a variety of planes, programs for which recently have been canceled or cut back. Among them have been the Fairchild PT-28 and PT-33, the AT-51, the Grumman Wildcat, the Vought-Sikorsky OS2U-1 Seagull and Cessna 300C-1 Skyball. The engines are installed in several experimental projects, and resumed production of the Ranger engine is expected, the company says, when experiments are concluded.



CHECKING AVENGER'S WING AND GUN ALIGNMENT

Pin-point accuracy is required in checking the alignment of wings and the machine gun fitted into them at the Fairchild, N. Y., plant of Eastern Aircraft Division of General Motors. Workmen here are checking wings to go on an Avenger torpedo bomber.

BOOTS SELF-LOCKING NUTS

"They Fit With Their Boots On Lightly"

Boots Aircraft Nut Corporation, General Offices, New Canaan, Conn., Dept. L

Model Plane Plant Output 5,000 a Week

American Junior craft used by AAF for gunnery practice.

Only 30 workers report daily to a Portland, Ore., aircraft manufacturing plant, but each week about 5,000 planes leave the factory, 8000 of them consigned to the Army for anti-aircraft gunnery training.

The planes are miniatures, of course, made of non-critical bals wood, with plaster of paris noses and several types are turned out by the firm, the American Junior Aircraft Co., of which N. E. (Jim) Walker is manager.

New Type Craft Produced—In addition to a fleet interceptor, the firm turns out a new type plane flown by whip-power under what is known as U-control, the motor-powered AJ Fireball, a bomber and a fighter.

The interceptor, with a wingspread of 18½ inches, can be set into the air either by hand or by a catapult. It sells wholesale at \$27.50. Wings of the plane are folded back, but on reaching an altitude of 300 feet, snap into position. From that height, the ship has the scale effect of a real plane at an altitude of 1800 feet.

Gunnery Practice—From a catapult, the plane can be shot into the air at the rate of from six to eight a minute, thus providing continuous gunnery practice. Advancements made before the flight determine whether, on reaching 300

feet, the model glides in a straight line, simulates flight of a strider, comes down in a steep dive bomber dive or circles for an attack position.

The new whip-powered model is a 38-inch plane, attached to a double line which can be let out to 49 feet. The line passes through an eyelet on a pole and control of the plane in flight is through manipulation of the line at the handle end of the pole. Whipping the pole and line give the craft a speed of 99 miles an hour in two seconds. Through line control, the plane can be made to do winnows, evolutions, dives, circles, loops and banks.

U. S. Buys 175,000—In 1943, the government took 175,000 planes of the firm's output. For the Army, the firm has made even a lower price than the 1943, cuts a plane charged wholesale before Pearl Harbor for the "American Junior Army Interceptor."

Walker said an Army lieutenant who charged to purchase an AJ interceptor is a 5- and 10-cent store in Temple, Tex., started the Army ground forces using the model planes for target practice and that later the AAF followed.

Research—Walker said the company was continuing research and development work in order to improve future designs and added that "in the post-war period you will be able to whistle at your model airplane and the thermal-control will bring it down to a perfect landing at your feet."

"In a model we have operated successfully, the 'car' has attach-

ments to the rudder. It responds to certain noises or combinations and moves the rudder. It is so arranged that a noise of pre-determined frequency will break an electric circuit," Walker said. "We have worked our models with good success 1,300 feet away, but farther than that they get out of control."

Navy Effects Cuts In Contract Prices

Despite general wholesale price increases, prices paid by the Navy for many items have declined although, in the case of the Bureau of Aeronautics, it was pointed out that a number of the most important items are new and therefore current prices may include initial engineering, tooling, personnel training and other costs.

Aircraft Engines—Four series of aircraft engines show price reductions of \$3.1, 9.6, 7.9 and 9.6 percent from January, 1942, to December, 1943. Propeller blade assemblies are represented by two series which declined 13.5 and 7.9 percent.

A scout bomber declined 32 percent in price from March, 1942, to December, 1943, a torpedo bomber declined 23.7 from January, 1942, to December, 1943, while a patrol bomber increased 7.2 percent in price from Jan. 1942 to July 1943, and a seaplane carrier reflected a price rise of 9.3 percent from July 1942 to Dec. 1943. One selected type of Navy fighter plane declined in price 42 percent between May, 1942, and Feb. 1944.

A Captain



a Compass



and a fog-bound convoy!

How many miles from England, a long line of ships hunched slowly through a blinding fog off the Grand Banks, groping uncertainly toward Cape Cod.

From vessel to vessel ran the Canadian's signal:

"Gyro—ship needed with Gyro-Compass."

Contact was quickly made with the skipper of a vessel so equipped, and he was assigned:

"Come to the head of the line... lead us through the fog."

And as the Sperry Gyro-Compass, being non-magnetic, and free from vibration and deviation, provided a fixed steering reference that guided the

ships through Massachusetts Bay to the eastern entrance of the Cape Cod Canal.

The skipper told us: "I navigated entirely by the Gyro-Compass. After three hours I looked up from my charts to tell my Chief Officer that according to my reckoning the convoy was at the Canal entrance... and just then the fog lifted and we had our objective dead ahead, with all the convoy assembled behind!"

The true story is not an unusual tale. For today, all over the Seven Seas, Sperry Gyro-Compass and GyroPlots with their magnetic and course monitors are guiding countless naval and merchant vessels.

Sperry Gyroscope Company

BROOKLYN NEW YORK

DIVISION OF THE SPERRY CORPORATION

GYROSCOPIES • ELECTRONICS • AUTOMATIC COMPUTATION • SERVO MECHANISMS



Plant Produces 5,000 Models Weekly: View of assembly line in the American Junior Aircraft Plant, Portland, Ore., which produces model planes used by the

Army for training anti-aircraft gunners. On the right is N. E. (Jim) Walker, manager of the plant, with the firm's latest model, operated by some coaxed.

Airlines Have Furnished Allies With 340 Planes, ATA Reveals

Gorell releases data following report that Roosevelt has signed order lifting limit on number of airline planes to 300.

Ave Transport Association figures show that the United States and foreign governments have taken 340 airplanes from 20 domestic and American flag carriers since Sept. 1, 1939.

They were included in a statement by Col. Edgar S. Gorell, ATA president, released as word spread that President Roosevelt had signed an order lifting to 300 (from 200) the limit on planes that may be used by the airlines in their commercial operations.

New Planes Received—On the basis of the ATA calculations, the return of 100 more planes would fall far short of restoring the airlines to their previous strength.

The boost in the plane limit was not unexpected in view of the fact that the 300 limit had been reached

in allocation of returned planes; and more are slated to go back to the airlines.

It is doubtful that the Civil Aeronautics Board, which recommended that the restriction be removed, set the new 300 limit. Deactivation of the number of planes available all along has been a matter for the army to decide.

Hunted by Fugate—But the fact remains that CAB Chairman L. Welch Fugate last month at Las Vegas referred to the "approximately 200 aircraft" in domestic operation and expressed hope "that a way may be found to permit the return of at least 100 planes."

Gorell's statement declared that, contrary to a popular conception that the airlines gave up half their equipment to the war program,

they "actually relinquished four times half" during the period Sept. 1, 1939, to April 15, 1941. He included planes the airlines had "on order" and arrived at the conclusion that the lines actually have contributed \$50 aircraft.

Sold to Allies—Outright sale to the Allied governments, he said, between Sept. 1, 1939, and May 3, 1942, accounted for 45. He numbered at 295 planes released from airline possession to the armed services at government request, and reported that these on order with aircraft manufacturers but relinquished at government request totaled 310.

When this last group would have been delivered is a matter for conjecture. It is noteworthy that the tables from which Gorell's compilation apparently was taken show how the war interrupted a swing to four-engine equipment. Orders for 76 Douglas DC-4's and 80 Lockheed Constellations were included.

Of these, American Airlines had ordered 30 DC-4's, Eastern Air Lines 6 DC-4's, Pan American 3 DC-4's and 40 Constellations, Transcontinental and Western Air 40 Constellations, and United Air Lines 10 DC-4's.

300 Planes Relinquished—Under agreement of Dec. 3, 1940, 40 planes on order were relinquished

including 6 Douglas DC-3's by American, 3 by Braniff Airways, 3 by Colonial Airways, 3 by Delta Air Lines, 10 by Eastern, 3 by Pan American-Central Airlines, 6 by TWA, 5 by United, 3 by Western, 3 Lockheed Constellations by Inland Air Lines, and 3 Lockheed by Mid-Continent Air Lines.

Also in the "on order" group may be included aircraft the WPA had approved for delivery to the airlines, on which approval was rescinded and the planes delivered instead to the government. Of the 120 planes in this category, 10 DC-3's had been ordered by American, 3 DC-4's by Braniff, 2 DC-4's by Chicago and Southern Airlines, 3 Lockheed by Continental Air Lines, 3 DC-3's by Delta, 11 DC-3's by Eastern, 1 Lockheed by Mid-Continent, 6 Lockheed by National Airlines, 1 DC-3 by Northwest Airlines, 4 DC-3's by Northwest Air Lines, 10 DC-3's and 11 DC-4's by Pan American, 3 Lockheed by PCA, 11 DC-3's by TWA, 14 DC-3's by United, and 1 DC-3 by Western.

The 46 ships sold to foreign governments such as England, Canada, etc., from Sept. 1, 1939, to May 1, 1942, included 4 Douglas DC-3's by American, 3 Lockheed 18-A's by Braniff, 3 Lockheed 10-0's by Chicago and Southern, 2 Lockheed 12-A's and 3 Lockheed 14-A's by Continental, 4 DC-3's by Delta, 10 DC-3's by Eastern, 1 Boeing 347-D by Inland, 1 Lockheed 10-A by Mid-Continent, 4 Lockheed 10-A's by Northwest, 6 247-D's by PCA, and 4 DC-3's by TWA.

285 Taken Over—Of the 285 planes that went into the armed services from airline possession, 11 government request, 135 were taken over between Sept. 1, 1939 and May 1, 1942. In this group were 16 DC-3's, 3 DC-4's and 8 DRT's from American, 3 Sikorsky 5-A's from American Export Airlines, 3 DC-3's and 1 DC-3 from Braniff, 3 DC-3's from Colonial, 2 Lockheed from Catalina Air Transport, 1 DC-3 from Chicago and Southern, 1 Lockheed from Continental, 1 DC-3 from Delta, 13 DC-3's from Eastern, 1 347-D from Inland, 1 Lockheed from Mid-Continent, 1 Lockheed 10-A and 1 Lockheed from National, 4 Lockheed 10-A's from Northeast, 1 DC-3 from Northwest Airlines, 1 DC-3, 9 Boeing 314-A's, 2 Martin M-130's, 2 Sikorsky 5-A's and 2 Sikorsky 8-0's from Pan American, 3 247-D's, 1 DC-3 and 3 Boeing 347-D (347-0's) from



CAI MODIFICATION CENTER CELEBRATES

Continental Air Lines has delivered for combat the 2,000th B-17 Flying Fortress modified at its Denver center under its third war contract.

TWA, 11 DC-3's, 4 Lockheed and 1 DRT from United, and 1 347-D from Western.

The secret order of May 6 took 142 of the airline planes for the armed forces, of which 31 DC-3's were from American, 3 DC-3's and 1 DC-3's from Braniff, 2 DC-3's from Colonial, 3 DC-3's from Chicago and Southern, 3 Lockheed from Continental, 1 DC-3 and 4 Electra from Delta, 10 DC-3's from Eastern, 3 247-D's from Inland, 2 Lockheed and 1 Electra from Mid-Continent, 2 Electra from National, 5 DC-3's and 1 Electra from Northeast, 3 DC-3's and 4 Electra from Northwest, 4 DC-3's and 1 347-D from PCA, 12 DC-3's and 3 DC-3's from TWA, 10 DC-3's and 13 347-D's from United, and 4 DC-3's and 3 247-D's from Western.

Subsequent to that date, eight airline planes were taken, including 1 B-17 Flying Fortress from American Export, and 3 Lockheed, 1 DC-3 and 3 Electra from Pan American.

South American Air Development Seen

Continued expansion of South America's commercial airlines, despite a dearth of equipment and manpower, indicates promise of new aviation development after the war, according to the office of Coordinator of Inter-American Affairs.

In Peru Chile Brazil Paraguay, Bolivia and Venezuela, the CIAA reports, airline growth has been

taking place. These recent events are listed:

Peru—Approval by the Peruvian Government of a new trans-Andean route for Panagra, giving with Panagra to Brazil a new trans-continental air route in South America. Agreement between that government and the U. S. Rubber Development Corp. whereby the latter started scheduled passenger and cargo service in eastern Peru, centering on EHC's port requirements. Formation of the Peruvian Airport and Commercial Aviation Corp., owned by the Peruvian Government, with starting capital of \$1,533,000, in anticipation of post-war aviation needs.

Chile—Approval by President Juan Antonio Rios of a 20 million peso appropriation of which part is earmarked for Chilean airfields.

Brazil—Announcement that several airfields to accommodate large cargo planes are to be built in the state of Rio Grande do Sul. A pilot training school also is planned.

Paraguay—Opening of Panair do Brasil's new airfield at Campo Grande near Asuncion. Exchange of notes between Paraguay and Bolivia looking to air service now between La Paz, Bolivia, and Asuncion.

Bolivia—A new weekly airline connecting La Paz with Tarija, in southeastern Bolivia, operated by Lloyd Aereo Boliviano as the first air service to that area.

Venezuela—An Organization of American Venezuelans, new all-cargo air service, to serve interior ports. A minority stock interest is held by Pan American Airways.



NAA ARRANGING AIRPORT USERS CONFERENCE

These are some of the National Aeronautics Association directors and national councilors who discussed plans for a Joint Airport Users Conference that summer at a meeting last week in Washington. About 25 were present. Left to right, standing, are James R. Graham, New York, vice-president and director; C. C. Thompson, Chicago, director, Forrest Giese, Sioux City, Iowa, councilor; Eugene Allen, Birmingham, Ala., councilor; Philip Wilshire, Riverside, R. I., councilor; L. J. Schneider, Minneapolis, councilor; Rudy Mueller, Omaha, director; Ralph W. Moore, Richmond, councilor; W. Percy MacDonald, Memphis, director; Bradley Dorr, Boston, director;

O. S. Warden, Great Falls, Mont., director; Stanley Droper, Oklahoma City, director; Roger Wolfe Kahn, New York, director; Wayne W. Parrish, director, and seated, Glee B. Earls, Los Angeles, vice-president and director; Stanley T. Walbank, director, William P. MacCawley, Washington, general counsel for NAA; William P. Sedgwick, Washington, NAA treasurer; William B. Egan, New York, president of NAA; Leonard Stumm, the Association's general manager; Kora Dodge, Philadelphia, councilor; J. Lee Barrett, Detroit, director; and Richard C. Palmer, secretary of the NAA. Mrs. Arlene Kettle, secretary to Stumm, is seated at Stumm's left.

WAL Saves 313 Lbs. On Coast Plane

Opens Los Angeles-San Francisco Route with new chairs, other light-weight installations.

Beyond returning to a route that was published in 1929 as the West Coast's "airline artery," Western Air Lines' opening of San Francisco-Los Angeles service May 1 was significant in the weight streamlining of the first plane to make the trip—a Douglas DC-3 returned by the Army.

Weight savings in recovered 100 pounds, based on comparison with the weights of DC-3s operating prior to military service, according to Charlie N. Jones, vice-president of operations for WAL. Of the total weight reduction, 105 pounds were retained by installation of new high-frequency radio apparatus (96 pounds) and 115 pounds by installation of a dual "30-2" automatic direction finder, leaving a useful load gain of 181 pounds.

New Chairs Installed—The greatest weight saving was through installation of Warren MacArthur

Co.'s new passenger chairs; a saving of 7½ pounds per chair, or a total of 157½ pounds.

Another weight-saving departure was the lining of the cabin with Tru-Seal Weaving Co.'s glass fabric insulation for a saving of 11 pounds. WAL officials claim a 100 percent increase in insulation efficiency for the glass lining, which also has the advantages of being moistureproof, fireproof and verminproof.

First Use on Airframe—Western's use of the new lining offers the first application of the material to a domestic airframe. The airline's further use of woven glass insulation for airplane plumbing, and Pennsylvania-Central Airlines' announcement in Aviation News May 1 that its latest recovered plane is equipped with Owens-Corning Fiberglas window curtains, indicate an interesting trend in airplane furnishings PCA also used the MacArthur chairs.

WAL weight savings shows those covered by the new insulation and seating equipment were offset by through modifications meeting current Federal flight and structure safety requirements.

CAB Studies Five Airline Route Cases

Recommendations on some proposed to establish over-all policy for industry.

By DANIEL S. WENTZ II

Civil Aeronautics Board examiners have been working on their reports on five bases, some of which may affect the overall airline pattern for the United States.

One of the most important is the Chicago-New York case, being handled by Assistant Chief Examiner Brown and Examiner Connel TWA, United, Colonial, Northwest, American, PCA, and Braniff are all involved.

Should Northwest be recommended for the Milwaukee-New York route it has applied for, a step will have been taken along the road to establishing a fourth transcontinental carrier. The problem of how many carriers can be supported by the New York-Chicago traffic also will play a part in this case.

Policy to Be Established—The Board decision on both questions

will establish far-reaching policies for air carriers seeking authorization of routes.

Examiners Bell and Fredricka are pondering the Oklahoma City-Memphis-Atlanta case, in which the east-west versus north-south question has cropped up.

Braniff applied for this route, which would give it entry to the Southeast vision. Braniff is usually characterized as a north-south carrier, and a problem of sound air transportation policy yet to be solved concerns its deciding whether such a carrier shall be permitted to expand in a direction at right angles to its main system.

Other Lines Involved—Chicago and Southern, Delta, Continental, American and Eastern are also in the case.

In the New Orleans-Kansas City case major extensions of three of the smaller carriers may be forthcoming. National seeks to extend from New Orleans to Kansas City, Mid-Continent wants to push its north-south route into New Orleans, and Delta has asked a similar route. Examiner Low is in charge of the case, but his report probably will not appear until June.

Parallel competition is the subject matter in the Joplin, Mo., case, in which TWA is seeking an alternate routing for AM 2 between Amarillo and St. Louis. If granted, this argument would parallel 681 miles of American's AM 38. Hearings before Examiner Rosters have been completed, but his report will not be issued for some time. Braniff was filed May 13.

TWA Control—The fifth case waiting a report concerns the control of TWA by Howard Hughes' Hughes Tool Co.



Western Air Lines now flies San Francisco—Los Angeles

Western Air Lines has inaugurated regular daily schedules between San Francisco and Los Angeles, thus reestablishing between these two cities a service pioneered by this company 16 years ago this month. It was in May 1928 that Western Air Lines introduced the first multi-engineered, cabin planes large enough to walk around inside... air conditioned... mesh aloft... two pilots and a system of 37 wireless reporting stations. This "model air line" marked the true beginning of the Air Transport era.

Today, the San Francisco-Los Angeles route is one of the two heaviest-carried interstate airways in America... and will no doubt multiply again and again to fulfill constant travel demands after the war. Western's 15 full years of pioneering experience in Air Transportation will again be devoted to building a "model airline" service between these West Coast cities.

General Traffic Office
515 7th Street, Los Angeles, Calif.



Recoveries Cuttings Save Weight: The DC-3 Western Air Lines is using on its Los Angeles-San Francisco route is 313 pounds lighter than before the war, due to fittings used as its recoveries. At left Ted Cate, advertising manager, is shown inspecting new glass fabric insulation used as liner for new 11

pounds and double passenger cabin insulation. Other picture is of Ed Hatchel (left), assistant maintenance superintendent, and Dan Maxson, chief mechanic, as they check weight of a 26-lb. passenger chair that is 7½ lb. lighter than a conventional DC-2 chair and saves 157½ lb. as a complete DC-3 outfitting.

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► **Clies Increasing U. S. Control.** Goodfellow pointed to the fact that Mexican airlines are coming increasingly under control of American carriers, and asserted that CAB should have some means to regulate any competition which might ensue.

He suggested that, should Pan American's investment in Aerovias exceed \$350,000, Board approval of the control again should be required.

The examiner disagreed with this restriction, and stated that he would not recommend it. He did, however, underscore another of Goodfellow's recommendations that CAB review of the case be required if Aerovias seeks to expand beyond the borders of Mexico. This would prevent the unapproved construction of an international system of airports by an American line through a foreign subsidiary.

► **Meritor Ventilates.**—W. L. Merivon, Pan American vice-president in charge of relations with Aerovias, said Aerovias is considering purchase for approximately \$34,000 of a small private line operated along the east coast of Mexico by Jesus Sarabia.

Pan American has not received any dividends from Aerovias since acquiring control in 1940, but the Mexican line does show a profit.

Filing of briefs and answer of an examiner's report were waived, and the case goes directly to CAB for decision.

CAB OK's Braniff Service to Lubbock

Service to Lubbock, Texas, by Braniff Airways has been authorized by the Civil Aeronautics Board, which amended Braniff's certificate permitting Austin-Fort Worth-Dallas flights to stop at the West Texas city.

The authorization carried the condition that Wichita Falls and Lubbock, both intermediate points on AM 15, could not be served on the same flight.

► **Sought by Two Other Lines.**—One hundred additional flight miles would be required to serve both cities, and the Board found that such deviation from the normal route flown was not justified, despite consistency of interest between the two.

The Lubbock-Wichita Falls service which the Board refused Braniff

also is sought by Continental and American in another case.

► **Marketing and Oil Center.**—Lubbock, with 54,839 population, is an important marketing, oil production, trading, and educational center.

Braniff, Inc., also is certified to serve Lubbock on AM 61 between Abilene and Amarillo.

Lubbock will not receive air service by either Braniff or Eastern until consideration of national defense permit.

New Marker Beacon Developed by CAA

At request of the Air Line Pilots Association, Civil Aeronautics Administration has developed a new type outer marker beacon to combat low visibility airport conditions. The device is a searchlight to swing a five-million candle power light beam from a vertical to a near horizontal position and return, in regular cycles.

Tests have shown, CAA says, that fog and smoke in the stream-plasma increase the effectiveness of the beacon, which has little value in clear weather. In a haze, it is visible from directly above about 1,000 feet into clouds.

► **Points Toward Airport.**—The beam points toward the airport when near the ground, but is stopped just short of a complete horizontal to prevent it from blinding in the eyes of airport personnel. The light moves 33 cycles a minute.

With the searchlights placed about 10,000 feet from an airport's edge, either in line with runway approaches or north, south, east and west, they are expected to indicate its whereabouts over a 25 square mile area.

UAL Maps Rehiring Plan for Veterans

A comprehensive plan for rehiring former employees now with the armed forces has been announced by H. F. Ahrens, United Air Lines' director of personnel. One of the first active schemes to utilize service-trained men, Ahrens' plan includes provision for hiring many ex-servicemen not previously employed.

United's personnel, Ahrens said, increased from 4,300 in 1943 to nearly 6,000 in 1944.

CAB's Leazar Joins Southeastern Board

Gas Leazar, assistant chief, investigation Division of the Safety Bureau, Civil Aeronautics Board, has been elected a vice-president and director of Southeastern Air Service, taking over his new post May 15.

Cody Lord, president of the company, now Leazar, a veteran flyer and airport engineer, would devote his full attention to the development of Southeastern's passenger feed base and feeder airline operations.

► **Conceded Elected.**—At the same time, Lord announced the election of James V. Carmichael, Marietta, Ga., attorney, as a member of the board. Carmichael is legal counsel for Bell Aircraft Corp., Georgia division, and general counsel for Southeastern.

Southeastern operates large AAF pilot training schools at Bonnettsville, S. C., and Jackson, Tenn. The company has plans for a comprehensive program of civil flying services, including aircraft sales, instruction, airplane maintenance.



New CAA Beacon: This searchlight, new CAA development, sweeps a pencil of light up and down to point the way to airports through smoke and haze. It is being tested.

and airport operation. Through a subsidiary company, Southeastern Air Express, Inc., Southeastern also contemplates a network of feeder air routes over the southeast.

Washington-Canada Route Hearings End

Washington-Canada route hearings ended last week after a seven-day session in which public testimony for both trunk line and feeder line service was thoroughly argued before examiners William J. Madson and J. H. Bensch of the Civil Aeronautics Board.

Little emphasis was placed on the international aspect of the case. Attention was directed chiefly to proposed service between Washington and Upper New York state.

► **Challenge.**—Counsel for the trunk line operators challenged the ability of feeder line applicants, none of whom said profits from their present feed-base operations would be used to absorb any deficit feeder operations might entail.

Union surveys withdrew its application for some 300 miles of routes, reducing the number of applicants to seven, among them American, Colonial, Eastern, PCA and United.

Most of the witnesses for feeder applicants testified that small type planes, possibly with only one pilot, might be adequate in the early stages of operation.

New PCA Directors

Landry, Black, and Stockton replace Loeb, Mitchell and Ladd.

Three new directors were elected at the annual stockholders meeting of Pennsylvania Central Airlines. Officers of the company were re-elected and H. W. Dever, who has been assistant secretary, was elected secretary.

► **New Directors.**—New members of the board are H. W. Landry, vice-president of the Automobile Electric Co. of Chicago and a director of several telephone operating or equipment manufacturing companies; Robert F. Black, president of the White Motor Co. of Cleveland; and James R. Stockton, of Teller, Stockton and Co., Jacksonville, realty insurance company and president of the Jacksonville Broadcasting Company. They re-

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place John L. Loeck, Jr. Stewart Mitchell and the late George Ladd. C. Beall Moore was elected president of the company for the third year.

The three vice-presidents, J. H. Carmichael, J. J. O'Brien, and Robert J. Wilson and Treasurer R. G. Leachler were re-elected.

► In Redden Shares—Redden of 32,000 shares of Pennsylvania Central Airlines preferred stock at \$27 per share has been set for May 15. Each share of preferred is convertible to common at the rate of two shares for one.

The recapitalization will give PCA \$74,468 outstanding shares of common at a par of \$1 per share.

UAL Sees Rate Cut As Airline Hurdle

Considerable development work by the airlines must accompany rate cuts if they are to realize the full potentialities of air cargo shipment of perishables, United Air Lines has found.

United's study, by J. Prescott Elliott, followed generally the conclusions brought out in a recent air cargo forum at Detroit.

► Merchandising—In addition to the necessity for establishing commodity rates and plane-load movements, Elliott found that the airlines must give consideration to aggressive merchandising and concentrate on shipment of perishables which have high value per pound and meet limited competition in destination markets.

Compared with the present 70 cents per ton-mile for air express, including pickup and delivery, Elliott reported that a substantial business in perishables was likely under an airport-to-airport plane-load lot charge of 25 cents a ton-mile for a 2,000-mile movement. A 10 cents per ton-mile rate, he found, would expand business under the 20-cent rate at least 20 times.

► Packaging Methods—The report pointed to the need for efficient packaging methods, and desirability of engineering plane-load shipments as possible and moving them to destination without additional handling.

The perishables he named as most likely to move by air in quantities included berries, apricots, asparagus, chives, fresh figs, flowers, mushrooms, plums, tomatoes and snailfood.

Jacobs Lists Gains In 'Copter Motors

Chairman Hunsie of engine company sees wide field for post-war development of rotor planes.

Disclosure that Jacobs Aircraft Engine Co. recently had acquired certain new experience in helicopter drive engineering was made by J. Andrews Harris, 3rd, chairman of the board, in the annual report.

JACOBS, makers of air-cooled radial engines for twin-engine military training planes and small transports, said in its report that research shows possibilities for wide developments in the helicopter field after the war.

Jacobs produced a record output of engines and parts during 1945 at the comparatively low margin of profit of 2.5 percent on the net sales after taxes, but before recognition.

► 1945 Income—Net earnings of the company in 1945, after all taxes and after federal income profits post-war credit, but before recognition, amounted to \$2,498,548, equal to \$3.95 a share on the 623,548 capital shares outstanding. This compares with an adjusted earnings figure of \$1,700,475 or \$2.76 a share in 1944, after giving effect to a tentative recognition.

Not income before federal ex-



BUY'S HAWAIIAN STOCK:

Jack Frey, left, president of Transcontinental & Western Air, and Stanley C. Kennedy, president of Hawaiian Airlines, Ltd., are shown as they met recently to sign the agreement whereby TWA acquired a 20 percent interest in Hawaiian for a consideration between \$300,000 and \$400,000.

cess profits post-war credit for 1943 amounted to \$1,200,394, equal to \$2.06 a share, as compared with \$1,448,281 or \$1.85 a share in 1942. **► Sales Up Sharply**—Sales for the year amounted to \$83,845,622, after reduction of a voluntary refund of \$5,668,660 made to the Army Air Forces, compared with \$34,817,444, for 1942, after giving effect to a voluntary recognition adjustment of \$4,500,000, reached with the Regional Price Adjustment Board.

However, this was not approved by Washington, which has indicated a claim for an additional \$668,660.

Ontario Gets Four Forest Fire Planes

Four new Canadian-built Noorduyn Noronnan UC-64 transports are being released by the Canadian Government to the Ontario Provincial Government for forestry fire fighting.

The single-engine planes cost between \$40,000 and \$46,000. Two will be stationed at Port Arthur on Lake Superior and two at Sault Ste. Marie on north end of Lake Superior.

► Fly Fighters in Piece—They will be used to fly fire fighters and equipment in the northern bush which cannot be reached by other transportation.

Ontario has been using aircraft for forestry fire patrol and fire fighting for more than 20 years and has a fleet of almost stationed throughout the northland for this purpose.

Flying Repair Shop Developed by AAF

A flying aircraft repair shop, the latest development of the Army Air Forces Materiel command, has been delivered to the Air Service Command for use in advance tactical areas and for the repair of planes downed in remote regions.

The mobile unit is compact enough to fit within a medium sized cargo plane and can make every type of repair except rebuilding of an entire airplane. Equipment is stored in eight wooden cases which also serve as work benches—each is provided with appropriate mountings for the particular type of equipment it contains.

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That's a mighty important question. Paper stocks are seriously low this year, and every time another shipload of paper-wrapped war supplies leaves an American port, the problem gets tougher • The voluntary cuts, the simple economies you have put into operation up to now, won't be half enough in 1944 • The only answer is honest, convincing paper-pitching by every one who uses paper • Organize a Paper Conservation Committee in your company. Pick only the best men for this job, and give them a green light so that they can work effectively • From envelopes to heavy cartons, have this Committee see to it that functional packaging is the order of the day—every day • In the past we suggested many ways your plant can use less paper. But you know your own business best! Go to it NOW!

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McKewell paper bags are used extensively in shipping steel and alloyed-steel loads.

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Coarse canvas and hand-penned canvas are made of paper.

Paper is used in camouflage strips and getting and patching.

All Army clothing and equipment now shipped in waterproof paper wrappers.

Use Less Paper These Ways

Cartridge letters and memoranda by (a) longer envelopes to narrow in possible; (b) sticking to telephone forms; (c) using reverse side of incoming letters on first carbon copy of reply; (d) using reverse side of second sheet for carbon copies; (e) using both sides of all mimeographed forms.

Check carefully to determine whether post shipping can save enough the requirements of Rule 42 of "unclassified freight classification requirements."

Eliminate individual returns in every possible instance. When individual returns are indispensable, pack in bulk whenever possible.

Control debarkment of paper supplies to employees in the reverse quantities do not accumulate in docks and department supply closets.

This advertisement prepared under the auspices of the War Advertising Council in co-operation with the Office of War Information and the War Production Board.

LET'S ALL USE LESS PAPER

Specs for this advertisement contributed by AVIATION NEWS

SHORTLINES

- San Antonio's municipal airport and Alamo field army-occupied auxiliary, have been leased to the federal government at \$1 a year each. The agreement covers runways and aprons of the city airport but not the buildings and is for the duration.
- Pan American has decided to put stewardesses on its flights between the United States, Mexico and Guatemala. Six women will work the long routes, such as those to the Canal Zone, Rio de Janeiro and Buenos Aires. Santo Marth, stewardess here, flies on the Clippers between Miami and Havana, Boston and Mexico.
- An engineering survey is being made to determine suitability for an airport of a 120-acre tract at Atlanta, Ga., offered for that purpose by Ark Underwood, Lakeland and Athens, Texas, farmer. The would be under a 10-year long-term lease.
- The Swedish government has appointed a committee to study design for airports in that country to accommodate the expected post-war increase in commercial aviation. A preliminary plan of construction improvement and equipment is to

be submitted as a guide to both government and municipalities.

- United Air Lines reports that its cargo flights through Chicago airport represent 11% percent of all air mail transported in the country during the first quarter of 1944. The Carpenters reported 1,215,200 mail tons in the three-month period.
- Paraguay's new airport, built by Pan Americans on the outskirts of Asuncion, was inaugurated in late months by more than 1,000 witnesses, supervised by Pan American technicians.
- Air Express terminals and cargo operations at La Guardia Field were inspected recently by students of an air freight class conducted by the Academy of Advanced Traffic in New York. Students include several airline employees. Walter H. Johnson, Jr., of American Airlines, is one of the class instructors.

CAB SCHEDULE

- May 15, Shuttle for exhibitors on the Great Lakes-Florida line (Detroit 174 at 11:30).
- May 16, Shuttle due in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 17, Shuttle due in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 18, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 19, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 20, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 21, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 22, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 23, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 24, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 25, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 26, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 27, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
- May 28, Shuttle for exhibitors in the case of the Detroit-Florida line (Detroit 174 at 11:30).
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CAB ACTION

- Civil Aeronautics Board has denied a request of Atlantic Airlines to route the service to the Atlantic-Caribbean route, as it would have to route to New York. Atlantic Airlines is making the purchase of Atlantic routes. Interest had been shown in the route by the United States government, but the Civil Aeronautics Board has denied the request.
- In the first instance of its kind, the Department of Commerce has long agreed to permit a foreign carrier to operate in the Caribbean. The Department of Commerce has agreed to permit a foreign carrier to operate in the Caribbean. The Department of Commerce has agreed to permit a foreign carrier to operate in the Caribbean.
- A Caribbean conference report has been received from the Department of Commerce. The report has been received from the Department of Commerce. The report has been received from the Department of Commerce.
- Chicago and Southern Air Lines has received a permit from the Civil Aeronautics Board to operate in the Caribbean. The permit has been received from the Civil Aeronautics Board. The permit has been received from the Civil Aeronautics Board.



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Outlook for Legislation On Air Transport

A **W**INTER that still exists on Capitol Hill in framing new air transport legislation appears likely to dissipate shortly. Odds are overwhelming that the 75th Congress will die with a vast and valuable accumulation of testimony on the records of committees in both Houses concerning all phases of air transportation, but with so codification of existing laws and regulations effected and no legislative policy set with respect to post-war international flying.

Some Republican Senators appear "hopeful" that congressional policy can be embodied in new legislation by the year end, but they doubt that the administration leadership would permit a measure to come to the floor, even if it could be made ready in time.

There is some feeling in the Senate that Congress will be presented some day with an air policy already completely worked out in the state department, too late for the legislators to change it without long delay.

If this is likely, the prospect for delay in framing new legislation in the next Congress would appear to be still greater, because there is growing feeling on the Hill that any international agreement should be of treaty stature, and such a pre-down policy throws into the Senate would bog down in long debate.

At the same time, on the House side, there is the belief that the Republicans, with increasing power, will permit consideration of no measure of such vital bearing on post-war conditions as aviation. It is felt that the Republicans would rather await the turn of the year which may find them in better position, and thus more effective in setting congressional policy.

This means that the Lea Bill in the House and the McCarran Bill in the Senate may pass into oblivion at year end. Both, of course, could be reintroduced immediately when the 76th Congress assembles. But in the case of the Lea Bill, at least, it probably would be months before the measure, or a similar one, could be brought to the House floor, if at all.

The current aviation legislation situation in both Houses is about as follows:

The Lea Bill, product of months of labor by the Interstate and Foreign Commerce Committee, is now described officially as "pending" in the powerful House Rules Committee. Although it has not been tabled, efforts of late to get it sent to the House have been unavailing. Some committee members conclude that it may be taken up at a moment's notice and reported favorably.

Assuming such improbable action, the bill would require several days of House debate, when it might be defeated by the interests which now

are keeping it locked in Rules Committee. But assuming passage by the House, it then would be referred to the Aviation Subcommittee of Senate Commerce Committee, which has let it be known that any legislation reported by its members will be framed by the committee itself.

The McCarran Bill, a monumental work for which the Senator disclaims any assistance in writing, has been filed with the aviation subcommittee and there it probably will die, as such. A number of committee members, aggrieved by McCarran's desire to proceed with haste in the urgent business of getting new and adequate aviation legislation on the statute books, do not admit even that there is any legislation having to do with aviation in their committee. They say that in due season they will write their own bill and although it undoubtedly will contain many of the good features of McCarran's bill, which in turn repeats many of the best features of the present Civil Aeronautics Law, it will be known officially as a committee bill.

There now appears little likelihood that the Senate group will have such a bill ready to report within the year. Chairman Bennett Clark has laid down agenda which may take months to exhaust and which deal only with overseas flying. Once that program is completed, the committee must turn to the same intensive study of domestic aviation.

These steps ordinarily might be accomplished easily in seven months, the number left to the 75th Congress, but the Republicans will be leaving Washington in less than a month to attend their national convention and the Democrats will start their caucus a month later. From that time until November Congress may not be in session. Even if it is, there is doubt that important legislation will be passed.

Actually, Congress has the prospect only of the rest of May and the remote possibility of August and September, with their election controversies, to pass legislation before its successor takes over. Even if there should be sessions in December, little actual output is probable.

A Republican House in January would mean changes in committee leadership and the probability is great, therefore, that the Lea Bill will get a thorough overhauling if it is not passed this session.

The industry, therefore, should be preparing its plans on the basis of the Civil Aeronautics Act of 1938, pending amendment of a national policy on overseas operations by the State Department. That, too, apparently, is held back by the sluggishness of international exchanges and the uncertainties of election year.

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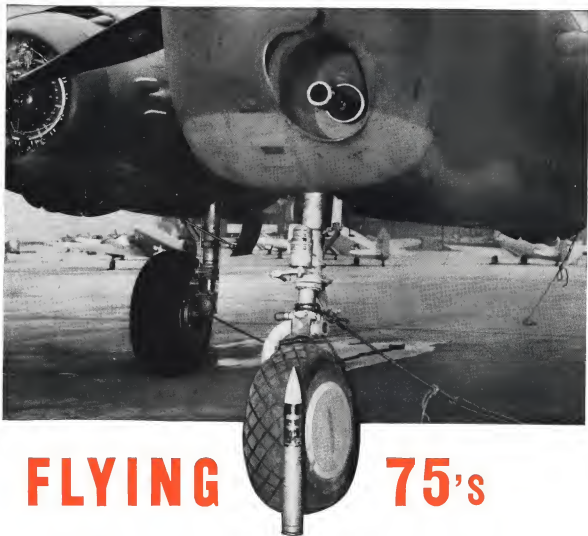
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